SUBSTANCE OF THE

Presidential Address

Delivered at the meeting of the British Medical Association in Glasgow,

BY WILLIAM T. GAIRDNER, M.D., LL.D.,

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DR. GAIRDNER at the commencement of his address said that it did not possibly occur to the gentlemen who were so kind and generous as to ask him to deliver the Address in Medicine last year that they were, in effect, thereby stealing from him the materials for the present address. And yet it was even so, indeed, and very obviously so; for how is a man, twice over within the space of twelve months, to discourse of the present state of the medical art and not at every paragraph to be found repeating himself? He would not trouble his hearers, however, with the heart-searchings and grave disquietudes entailed on him by this little incident. At one time he hoped to have got over it by avoiding medical subjects and speaking chiefly about the past history of Glasgow. But here he found he had his purpose, even if in process of being matured, altogether forestalled by the very numerous and mostly admirably done publications[1] which have been called into existence by the International Exhibition, to the Executive Committee of which he hoped before long they should feel that they were under deep obligations in many ways. He then proceeded in a few words to sketch the rise of the city, and, alluding to its present population, wealth, and importance, concluded his introductory remarks by bidding his hearers welcome to what might be justly claimed to be, in the words of St. Paul, "No mean city."

Dr. Gairdner then proceeded with his address as follows:—

The Physician as "Naturalist."—In seeking about for a topic on which I might occupy your attention this evening, I have been led to make some special reflections on the curious survival among us of an ancient way of thinking that is presented to the mind by the designation in English of the *physician*, or, as Chaucer has it in his well-known Prologue to the "Canterbury Tales," the "Doctour of Physike." I do not know if it has occurred to many of you to observe that in no other language than our own has this survival occurred. The surgeon—*chirurgus*—has, indeed, kept from a very remote antiquity the title which was given to him in the days of his subjection as the *handworker* or *operator* under the direction of the physician. But the most remarkable thing about this last, and conventionally the higher, title is that while it seems to recall a time when the medical art was distinctively associated in the minds of men with the study of *φύσις*, and when the healer of the sick was regarded as in a very special if not exclusive sense a *student of nature*, it is very hard to discover from the traditions of language, either our own or any other, when this idea first took shape—how and when the notion began to be entertained that the most fitting title for the most highly honoured representative of the medical art was to call him, distinctively, a *naturalist*, or, if you will, a natural philosopher or *physicist*. It has occurred to me that it may not be an altogether unprofitable task for one who holds a chair in this University popularly designated as one of *Physic*, to inquire how the idea represented in this word *physic* came first into existence, and how it got floated into such a degree of popularity as not only to have practically displaced to a considerable extent in our own language the much older one of *medicine*—that is, healing—as applied to the art itself, but to have got itself into currency as applied to the very tools of the art, the drugs with which the physician, so called, was supposed mainly to work his cures. I hope to be able to show you that these words *physician* and *physic* have relations with some of the very best and highest traditions of antiquity, and that it may be possible for us even now to make an application of them which will repay and at the same time justify their retention in the English language, although, it may be, tending also to discover certain deficiencies which still unhappily exist in our systems both of medical and general education.

My argument, in other words, will be this:—For a series of indeterminable ages, from the time, very probably, of Hippocrates downwards to what we call the dark or middle ages, the tradition has continuously existed that the healer or physician of the highest class ought also to be, in a very real sense of the word, a naturalist or perhaps a man of science (physical science being, of course, understood); that it is his prerogative to be trained and exercised after the best manner and according to the most thorough discipline of the science of his age; and that he ought to be (or, at least, that he has been in very remote times) regarded as being admirable and trustworthy as a healer or physician chiefly in proportion to the confidence reposed in him as a naturalist, that is, a humble, reverent, and exact follower and student of nature.

The Hippocratic Tradition—Anticipation of the "Novum Organum."—You are all familiar, no doubt, with the magnificent opening of the "Novum Organum,"[2] which ascribes to Man as the "minister (or servant) and interpreter of Nature" only so much either of power or of knowledge as he has gained by observing the order of nature, outside of which he neither knows nor can do anything. Now, it is a curious fact, which has not escaped the editors of Bacon in recent times,[3] but which may require, nevertheless, to be brought to your notice, that the very word or phrase here used to designate the limitations imposed upon the *power* of Man in reference to Nature is the one which, in a very remote age, had suggested itself to Hippocrates as specially indicating the function of the healer. He is, he must be (according to Hippocrates), "the servant of Nature"—*ὑπηρέτης φύσεως*. Nor is this a mere accidental expression, which might be passed over as a coincidence not extending below the surface. On the contrary, the expression is taken up and specially commended by Galen (surely the best of all authorities on such a point) as being of the very essence—the key-note, as it were—of the Hippocratic teaching, with which all the later authorities (Aristotle and the Peripatetics), as he tells us, were essentially in accord.

But to return to Hippocrates and his remarkable declaration, that the *ἰατρος*, or healer, is the servant of Nature (*φύσις*). This expression, as I have already said, is no merely casual one in the writings of Hippocrates; for Galen remarks upon it, and (in the full knowledge, therefore, of all that could be said for or against the expression by rival sectaries) he does not hesitate to declare that Hippocrates was "*the first* to observe the works of Nature"; and that he "is always admiring and insisting upon the sufficiency of Nature, whereby what is necessary for the life of all animals is done *ἀδίδακτοι*—that is, spontaneously, and without apparently conscious effort." He thus places Hippocrates distinctly in advance of, if not above, Aristotle and the Peripatetics, in respect of originality in the study of *φύσις*; and he further maintains that Erasistratus, the Alexandrian anatomist, had adopted an inconsistent attitude towards Nature, and that his followers had exposed themselves to ridicule by their unintelligent criticism on what was simply a development by the Peripatetics of the physiology—that is, Nature-teaching—of Hippocrates. It is not necessary to go into this old controversy now further than to show that, by the very fact of its having become a controversy at all, the position of the *ἰατρος*, or healer, as the "servant of Nature," must have been very well known not only to Galen, but probably also to Aristotle: and through these to the Arabian physicians and to the whole of the

[1] The most suitable of these that I have been able to look into are the following:—Constable's Guide to Glasgow (James Maclehose and Sons); Glasgow, Ancient and Modern, with an Account of the Bishop's Castle, by George MacGregor, F.S.A.Scot., author of History of Glasgow (Hay, Nisbet, and Co.); Pollock's Dictionary of the Clyde, 1888 (John Menzies and Co.); St. Mungo's Bells, or Old Glasgow Stories, by A. G. Callant (David Bryce and Son). A work of more research and elaboration, and well worthy of the attention of all who can afford the time, is "Old Glasgow: the Place and the People; from the Roman Occupation to the Eighteenth Century," by Andrew MacGeorge (Blackie and Son).

[2] "Homo, Naturæ minister et interpres, tantum facit et intelligit quantum de Naturæ ordine re vel mente observaverit, nec amplius scit aut potest."—Aph. i.

[3] See note at p. 157 of Ellis and Spedding's edition of Lord Bacon's works, vol. i., 1870.

middle ages, of which they were the teachers and lawgivers.

Nor did Hippocrates, the father of medicine, escape the reproach which it has been so easy and so profitable in many ways to fling at those who, in a later day, have proceeded in accordance with his precept, if not his example. We hear chiefly from Pliny and Cœlius Aurelianus of a certain Asclepiades of Bithynia, a contemporary of Cicero, whose true character it seems rather difficult to decipher, but who at least may be said to have been a fashionable physician in Rome, with a brand-new system of his own. Asclepiades, whose *rôle* in the treatment of disease seems to have been one of constant interference, or, as we should say, of meddlesome physic, only (it is believed) using as a rule, and in a temporising kind of way, the mildest and most agreeable of medicines,[4] had, of course, no appreciation at all of anyone who, in his character of a healer, professed to be a "servant of Nature." He said, in fact, that, in speaking of nature as a kind of intelligent principle, Hippocrates was (not to put too fine a point upon it) talking nonsense. Nature is too often bent, not upon healing the man, but (as a witty member of this Association once said in my hearing) on putting him into his coffin! Hippocrates, as the servant of Nature, is simply a *waiter upon death* (*θανάτου μελέτην*). The true business of a physician is to "make himself master of the occasion"—that is, to shove old Dame Nature out of the way, perform the cure *tuto, cito, et jucunde*, and claim all the credit, which, no doubt, he did in Rome, as the quacks in all ages have done everywhere, with great comfort and advantage to himself, and (let us hope) with the minimum of injury to his patients.

The truth and the falsehood that underlie this old-world argument I will not attempt to discuss this evening, having done so already on more than one occasion. I am alluding to it now mainly to show that the position of him whom we now call the physician, in reference to *φύσις*, was a well-recognised one long before the origin of the term *physicus*, as applied to him in the Latin of the Middle Ages and the French of the thirteenth century—from which, in all probability, we have derived our English word. What I have now to do is to inquire how far we are maintaining, in this nineteenth century of ours, the position assigned to Hippocrates by Galen (and, I have no doubt, rightly assigned) of being prominent among the seekers into *φύσις*, or, at all events, capable workers in this field, in accordance with the methods and advances of modern physical science.

The Physician of the Middle Ages.—It may be not unimportant for this purpose to remark that, so far as we can judge of him from literature, the physician of the middle ages, though retaining the name, was in a very small degree, if at all, cultivated according to the type. Chaucer's Doctour of Physike, though very far indeed from being a pedant, was assured y much more of a *learned* than of a *scientific* physician. The fate of Roger Bacon in the century before Chaucer was an amply sufficient warning to the good-natured and easy-going doctors of his time that anything like original research into *φύσις* was dangerous—nay, liable to be proscribed and punished with imprisonment, perhaps with the faggot, unless it proceeded exactly on the lines of St. Thomas Aquinas, the "angelic doctor." It was very much easier and more comfortable in every way to stick to Hippocrates and his "humours," where everything was sure and safe; and to add a little astrology, which at least was permitted, if not encouraged,[5] and could get no one into trouble. And when we come down more than a century and a half to Rabelais, two centuries to Montaigne, three centuries to Molière and Guy Patin, we find the position still much the same, or rather, in all probability, worse as respects the *physician;* although surgery and anatomy may have been making some steps in advance. I apprehend that the doctor of medicine in the middle of the seventeenth century in France, unless he has been caricatured out of all recognition by Molière, must have been altogether the most stupid, pompous, brainless formalist that ever in any age of the world practised the art under a learned title. The satirical portrait of Thomas Diafoirus, and the magnificent installation of Argan in the "Malade Imaginaire," remain for us and for our remotest successors, to show the art of healing may degenerate under the influence of scholasticism, and how base a creature it was at least *possible* to represent a "physician" as having become in the days of Louis XIV., in the midst of a most brilliant outburst of literature and art, at the very time when Harvey's great discovery was slowly making its way against prejudices derived from the darkest of the middle ages, and the still overpowering authority of Aristotle and of Galen.

But at this time the Faculty of Medicine in Paris was probably the last retreat of obscurantism in all Europe, at least within the domain of the physician. In Italy, in England, in Switzerland, in Germany, and in the Low Countries, the spirit of observation and experiment was awakening from a long sleep; and in many departments—anatomy, botany, physiology, surgery—things were moving on apace; but the physician was almost everywhere belated in the race. Even down to the last century, the man of *learning* (of the type of Linacre and Caius) in the Royal College of Physicians of London greatly predominated over the man of *science*, as exemplified in William Harvey; while Oxford and Cambridge, which alone could open the portals of the College, were absolutely *nowhere* as schools either of science or of medicine; and neither taught nor professed to teach anything but a mostly mediæval curriculum. And thus it came about, so late even as the year 1815, that the curious anomaly of the "double qualification" obtained a legislative sanction in English medical education. For, while in most European countries the State and the universities co-operated in arranging and controlling the issue of a single qualifying diploma for the general practitioner, the Royal College of Physicians of London was still too much the college of a learned *caste* to allow of their exclusive privileges being shared by any but university graduates; while the two great English Universities were altogether too helpless, as regards the necessary discipline of a medical career, to make it even possible for them to afford the slightest assistance. The Royal College of Surgeons, on the other hand, which had for ages concerned itself only with anatomy and surgery, to the exclusion of physic, continued on the even tenour of its way, including in its membership men ignorant of Latin, but instructed as regards fractures, dislocations, and surgical procedures generally; while the Worshipful Company of Apothecaries, cleverly perceiving and taking advantage of the enormous gap which was at once apparent between the technical discipline of the pure surgeon and that required for the all-round practice of the medical profession, marched into a position of legal independence through this gap, and, from being the humble servants of the physician, obtained for their licentiates not only the exclusive right to dispense medicines, but the status of prescribing them also, and thus a perfectly just and well-earned rivalry with the physician all over England.

Modern Physic: the Colleges and the Universities.—What I am chiefly concerned to bring under your attention, however, in this connexion is that, according to the historical development, or evolution, of medical education in this country, and especially in England, the physician, in the sense of *Naturæ studiosus*, the devotee of *φύσις*, as aforesaid, stood a very fair chance of being altogether, and finally, suppressed and wiped out of existence.

What is still wanting in the training of the Physician.—From the earliest days of my experience as a teacher it has been customary with me to use expressions and to act in a spirit, of which you may readily judge for yourselves from the following brief paragraph, taken from an address to students of medicine, delivered more than twenty years ago: "The first lesson to be learned in order to make all other lessons possible is, in my opinion, this: to deal very largely with things and not with mere words; to realise as much as you can all your instruction by making it your own through personal observation; to suffer nothing, if it can possibly be avoided, to lie in the mind as a dead weight of vocables, oppressing the memory and dwarfing the intellect; but to bring everything into the living light of fact and of nature, and thereby at once to assure to yourself the truth and exactness of your knowledge, while at the same time you

[4] He is reported to have been the inventor of the phrase, "Tuto, cito, et jucunde," as applied to medical treatment in general. But he also employed, according to Pliny, magical remedies to a great extent. (See Le Clerc: Histoire de la Médecine, 2nd partie, l. 3, cc. 4–7.)

[5] Judicial astrology, however, which (according to Naudé) was "l'enfant supposé de l'Astronomie," was (he says) very properly condemned by the Church, "non point comme suspect de magie, mais comme une science vaine et chimérique, *quæ stellis ea quæ geruntèr in terrâ consecret;* qui veut pénétrer dans nos destinées, et qui par la témérité qu'elle a de vouloir s'égaler à la Providence, en fouillant dans l'avenir, combat directement la Religion." So that Chaucer's Doctour of Physike was, perhaps, a heretic after all!

are stamping it down upon the memory by the most sure and lasting of all technical methods."[6]

No one can be more ready than I am to admit that there are—nay, that there must be—limitations in the very nature of the case to the too absolute recognition of this ideal. It is said by some that the spirit of modern science is ungenial and hard, even pitiless, and therefore not at all fitted for the ministrations of humanity; that it tends to make the suffering man, the *patient* (as we call him), into a mere *case*—a thing to be observed and noted rather than a man of like passions with ourselves, and therefore to be treated with consideration and sympathy. There may be just a grain of truth in this; and to whatever extent it is true, we of this medical school claim to be aware of the fact, and to be ever on our guard against the tendency. But none the less it may be affirmed with entire truth, and with cumulative evidence if need be, that all the evils inflicted on poor suffering humanity by the physician as scientist have been but a drop in the bucket as compared with those which have sprung from the too slavish adoption of traditions, in which there never was any trace of the scientific spirit at all.

I will venture in advance (although I know as yet but little more than the general subject on which he is to speak) to commend to your notice the forthcoming Address in Physiology by my esteemed colleague Professor McKendrick, as a sample of the kind of instruction which we of this University and medical school consider to be among the legitimate developments of the study of *φύσις* as applied to our art. But in doing so I shall venture to anticipate—because I am well assured that anything I can say here will only give expression to what will still more clearly emerge from that discourse—some of the discouragements to which I referred a moment ago—the difficulties we experience in training our students adequately on the lines we have laid down for them. These difficulties are manifold, and they are not of our making, nor are they peculiar to Scotland. I have only time now to refer to two of them.

The first of these difficulties belongs to the medical curriculum, in which, although chemistry, botany, and natural history have long been with us a necessary part, and, so far as they go, a well-conceived and valuable scientific basis for the more technical part of our teaching, nevertheless physics proper—or, as we call it, natural philosophy—the very first step in the study of the laws of matter, is still but very imperfectly recognised. This great omission has arisen, no doubt, from the fact that these laws were supposed to be taught, and in a measure were taught, in connexion with chemistry, which, from its old hereditary relations with pharmacy and the pursuit of the philosopher's stone and the elixir of life, had from time immemorial a claim on the physician. But when we consider how completely modern science has demonstrated the subordination of living bodies and physiological processes, not to a wholly detached set of laws termed vital, but to all the most elementary laws of matter; and, further, the correlation of all the physical forces throughout the universe, so that the living body and its environment act and react on each other throughout infinite space and time, it will be readily admitted, I think, that some kind of systematised instruction in physics, and not a mere elementary examination in mechanics, should be an essential part of an education with a view to the medical profession.

But this leads me directly to the other difficulty, or disadvantage, under which the Scottish universities have hitherto laboured in endeavouring to restore to the healing art its ancient association with the study of Nature. And this is by far the graver difficulty of the two, inasmuch as its rectification depends in no degree upon us or upon any possible change in the medical curriculum, but upon what amounts to a practical readjustment of the entire edifice of general education.

Want of early training in Physics and Natural Science.—The evil to which I now refer, as some of you have already no doubt perceived, is the extremely unprepared state in which the minds of most boys and young men are found at the time of their leaving school as regards the most elementary truths and methods of physical science, and of the observation of Nature. It is now more than a quarter of a century since this great defect in the English public schools attracted the attention of a Royal Commission appointed in 1861, and there is no reason to suppose that in Scotland at the time in question the state of school education was in this respect much better than in England. Evidence of the most convincing kind was given in 1872 before another Royal Commission to the effect that "the limitation of the examinations (under this revised code) to the subjects of reading, writing, and arithmetic unfortunately narrowed the instruction given in the elementary schools; and that this change, together with the lower standard adopted in the training and examination of pupil teachers and the curtailment of the syllabus of the training colleges, exercised a prejudicial effect on the education of the country." I am well aware, indeed, that in Scotland, and even in our own city of Glasgow, there are schools which have already made some considerable advances in the direction here indicated; and that in the old High School of Glasgow in particular there exists now a chemical laboratory such as would do no discredit to any university. But as regards the schools throughout the country, the advance has been so slow that for a long time to come our boys will leave their schools, and our young men will continue to enter the universities, in a state of great mental unfitness to grasp even the most elementary ideas of physical science, and therefore requiring more than ordinary care to ensure, at the very commencement of a medical education, the preparation in *physics*, which will shortly become all-in-all to the true *physician*.

Religio Medici.—I have now to ask your attention, for a very few minutes only, to a concluding topic, which I approach, indeed, not without fear and trembling, but which is of too much prominence and importance in itself, in connexion with the subject of this address, to allow of my passing it by without some reference.

Probably there may be some of you here present who have been led to take note of a proverb which I am bound to say I have not been able to trace to its source, but which I suspect to have been the growth of that mediæval period to which allusion has already been made in the course of this address: "Ubi tres medici, duo athei." I am not concerned in tracing out for you, even if I were able to do so, the most probable origin of this defamatory saying, nor shall I spend many words in venting my honest indignation upon it as a calumny and a reproach. It will be wiser and more profitable in every way to take it as it stands—as an example of what the late Earl Russell said of proverbs in general—"the wisdom (or in some cases the foolishness) of many," accentuated and condensed into a telling phrase by "the wit of one." From this point of view it may be that there is something more or less worthy of careful reflection in this proverb, even if we should disown it in its literal acceptation. But I need scarcely say to those who are at all conversant with philosophical studies, that to have been accused of atheism in the middle ages may be quite the reverse of a real reproach to any man or set of men. From the time of Socrates downwards, indeed, this reproach has been a part of the stock in trade of vindictive, even if sincere, ignorance and bigotry all over the world; and to have been tabooed with atheism is often, almost without qualification, a passport into the ranks of those who have kept alive the flame of the human spirit, tending, and often vainly struggling upwards, to escape from the jargon of scholastic controversies and the mephitic vapours of ecclesiastical strife. From this point of view it was inevitable—nay, it was essential—that the physician or naturalist, in so far as he really was or aimed at becoming such, should incur this reproach. The marvel rather is to us of this nineteenth century that those who incurred it should have done so little to deserve it. The reproach from a philosophical point of view, inconsistent with atheism, but not seldom conjoined with it, of tampering in an evil sense with magic, was sure to be launched in those days at men who professed to be successfully investigating the *secreta naturæ* by other than the most orthodox methods. And the prosecution and imprisonment of Roger Bacon on the one side and of Galileo on the other, not to speak of the numerous "martyrs of science" both before and after these, will remain as an imperishable record of the blind and impracticable spirit of mediæval dogmatism, which, covering itself with the mantle of religion, stood athwart the path of the physician for hundreds of years. But although the condemnation on the side of godlessness came most easily and naturally out of the mouths of ecclesiastics, it is not by any means to be inferred that, either in ancient or modern times, it has been confined to them. Even in the kindly and thoroughly human word-picture,

[6] Medical Education, Character and Conduct, &c. (*ut supra*), p. 70.

drawn for us by Chaucer, of the typical "Doctour of Physike," in the prologue to the "Canterbury Tales," line 440, it comes out that while

> Wel knew he the old Esculapius,
> And Dioscorides and eke Rufus,
> Old Hippocras, Hali, and Gallien,
> Serapion, Rasis, and Avicen,
> Averrois, Damascene, and Constantin,
> Bernard, and Gatisden, and Gilbertin—

yet, alas! as a sad balance in the way of defect to all this learning of ancient, and also of then quite modern date, it is quaintly and humorously added in a single line, without even an attempt at amplification or excuse, that

> His studie was but little on the Bible.

This, then, is the position and the stigma that we have to deal with as physicians or students of Nature and science in the present, as in all former ages, in proof of which you will allow me simply to refer (without at all dwelling upon it) to an article in the actually current number of the *Contemporary Review*.[7] I will therefore close this address with a very few thoughts of my own on the subject, not at all in the way of controversy or of recrimination, but as expressing the matured convictions of a lifetime on a theme which must needs come home to every man's conscience in the exercise of our profession, and on which I should despise myself if either the desire of saying smooth things, or the fear of saying the opposite, were to move me in the least degree in addressing an assembly like this.

That the active ministry of the healer, if fitly and diligently pursued in a serious and not a sordid spirit, cannot possibly tend to irreverence, or to what I would call essential atheism or godlessness, is, I think, so obvious that it is only wonderful that any doubt should ever have arisen on the subject. That ministry is the ministry of the body, no doubt; physical, therefore, in its aim; physical also, to a certain extent, in its limitations; and I am not one of those who would argue that, because it is so, the physician is thereby degraded and straitened unless he is also constantly invading the province of the religious teacher. But when we consider how closely the one province trenches on the other, and, further, that in all the greater and graver crises of the lot of man on this earth—birth and death, sickness and health, moral contamination producing disease, and, on the other hand, physical disease inducing moral aberrations, and, with or without these, positive insanity,—we must acknowledge that the spiritual element in man is brought necessarily into the sphere of the physician's daily work. I am confident there is not a man in this room who will not emphatically agree with me in saying that a physician who even inclines towards irreverence as his habitual attitude of mind is thereby disqualified from performing aright the greatest of all the services that at times he can render to the sick.

The physician of the future will, I believe, be much more, instead of less, inclined to study the Bible than hitherto, and in this respect will differ greatly from the representative and typical "Doctour of Physike" of the "Canterbury Tales." But he will study it in the spirit of modern scientific freedom and of historical research, not under the influence of mere tradition and ecclesiastical authority. And thus only, as it seems to me, can the reconciliation of science and religion ever be brought about.

The physician of the future will do well if he remembers always the pernicious despotism which has been exercised over his own art (though in a minor degree) by the fetters of these dead orthodoxies, and will therefore be very slow to acknowledge their claims upon him to any more than a historical regard, even in the realm of theology. He will say of them, in the noble words of the Westminster Confession, which (but for the formula connected with it in our Scottish churches) might almost be taken as the Magna Charta of Christian liberty in all such documents—"All synods and councils since the Apostles' times, whether general or particular, may err, and many have erred; therefore they are not to be made the rule of faith or practice, but to be used as an help in both."[8] But I desire you very specially to remark, as my own personal anticipation, shared, I have no doubt, by many of those now present, that the physician, in his character of student of Nature, will make, and in the end will establish, this claim to emancipation, not in virtue of any irreverent, much less atheistic, tendencies, but for the very reason that he has access to a revelation of God distinct from the written revelation, and requiring a wholly distinct method of investigation. In obedience to this call, he will, sooner or later, absolutely decline to walk in the leading-strings of ecclesiastical tradition. And in so doing he will (far from fulfilling old Dan Chaucer's satirical description) studiously insist upon the Bible, and especially the New Testament, and, above all, the recorded life, words, and works of our Lord himself, as containing by implication the charter of his emancipation, and the only perfectly free religious atmosphere as yet opened to human thought and inquiry. In proof of which I will now only submit one pregnant saying, with which, if it be indeed the word of God, all those who believe it to be such are bound to find all the other words of God in entire accord—"Henceforth I call you not bond-servants, for the bond-servant knoweth not what his lord doeth; but I have called you friends, for all things that I have heard of my Father I have made known unto you" (John xv., 15).

[7] "The Scientific Spirit of the Age," by Frances Power Cobbe, Contemporary Review, July, 1888, p. 126.

[8] The Confession of Faith, agreed upon by the Assembly of Divines at Westminster &c., chap. xxxi. Of Synods and Councils, 1648.

SUBSTANCE OF THE

Address in Medicine

Delivered at the meeting of the British Medical Association in Glasgow,

BY T. CLIFFORD ALLBUTT, M.A., M.D., &c.,
CONSULTING PHYSICIAN TO THE LEEDS GENERAL INFIRMARY.

ON THE CLASSIFICATION OF DISEASES BY MEANS OF COMPARATIVE NOSOLOGY.

DR. ALLBUTT commenced by remarking that of late years his avocations had prevented an attachment to that kind of special investigation to which his earlier years were devoted; he had, therefore, none of the results of experiment to lay before his hearers. Happily, however, as he thought, the address in medicine should deal rather with the larger aspects of our art—with those broader conceptions which fashion themselves in the mind ripened by diversity of experience and fed by the continual discoveries of others who still labour in the various fields of inductive science. In one large conception of medicine his mind had dwelt for many years, and he gladly seized this time to place it before them, for he believed it to be the *novum organon* of medicine, its instrument, and a clue to its investigation. He asked their permission to make a few reflections on the classification of disease by means of comparative nosology, a method which would coördinate the ever-increasing accumulations of our clinical note-books and of our laboratories, and create a system which, in its turn, would direct and inspire the labours of the inductive inquirer of the future. He then briefly quoted from some addresses and essays which he had published on the subject some years ago, and proceeded as follows:—

In order to attain to a true system of classification, a διακόσμησις, or marshaling of diseases of men, animals, and plants, on a basis of affinity, we must pursue at least four different methods of inquiry—namely, the hereditary, the historical, the geographical, and the experimental methods. These methods of inquiry, which touch each other closely and cannot on all sides be logically dissociated, must, however, be separated for convenience of handling.

The hereditary method.—I will consider first the phenomena of heredity in disease, "to our ears the murmur of a thousand years." We are only on the threshold of knowledge as to the vast significance of the doctrine of heredity, says a recent author.[1] Our survey of family history, even in these days of records of the generations of civilised man, is of course very limited, and very imperfect within these limits. When we disregard the conventional trail of descent in the male line, and remember how rapidly the family tree expands backwards, even in the van of time, we find our scrappy pedigrees so flimsy that we may tend to undervalue the little light which "tradition, time's suspected register," has hitherto undoubtedly afforded. Yet for any fulness of

[1] Clodd's Story of Creation.

knowledge, the nosology even of a nation is inadequate; we must pierce beyond the human race itself, and pursue our inquiries into the diseases of animals—yea, even of plants likewise[2]—before we can establish our system. Nor is this sufficient. Dividing, as well as we may, the autogenous diseases, such as gout or cancer, from the extraneous, such as small-pox or ague, and these again from diseases like phthisis, in which the extraneous cause is a touchstone of diathesis, we have to investigate the embryology of men and animals, and the diseases of the young which betray reminiscences of earlier forms. The phenomena of arrest, again, must be observed, distinguishing arrest from atavism; nor must we forget to trace the heredity of morbid function in separate parts, even in the leucocytes, which, when so far specialised as in man, are said to have less individual power of fight in them. We have to note, also, the effects on subsequent generations of such external agents as syphilis, alcohol, or depressing passions. Again, we have not only to record single affections, but to compare subgroups of affections—diatheses, as we call them—learning to place them in subordination, distinguishing the more simple, universal, and elementary diatheses such as struma from the more special and complex diatheses such as the nervous; as we distinguish the more simple and elementary neoplasms such as exostosis from those of a more special character. At certain stages of this great inquiry we shall mark the emergence of the larger kinds of morbid process, such as the explicit capacity for fever, which, as I have said, can only come with the explication of that part of the nervous system which makes for thermotaxy. Now, when we look for the facts of hereditary disease in man, even within the limits of modern records, we find that observation has been almost wholly directed to the detection of the recurrences of the same form of malady in one family tree. In my search for recorded facts I can find much information concerning the heredity of phthisis—for instance, of asthma or of cancer,—but the words of Bacon are forgotten: "Nemo alicujus rei naturam in ipsâ re feliciter perscrutatur." To know the affinities of asthma, let us say, we must trace the records not only of asthma, the *res ipsa*, but also the records of all other morbid reversions in the same stock. Thus we may find in this stock not only angina pectoris, which is like it, but gastralgia, which is less like it, and eczema, which is less like it still. Unhappily, this kind of search has not yet been made. Into the causes of hereditary variations, for such are many diseases, I need not enter. The inherent tendency of organisms to vary—"Nature's bent for inequality," to use Matthew Arnold's words—is well known, if not yet explained, and if organisms be exposed to changed conditions for two or three generations a structural effect becomes visible in those which adapt themselves.[3] To use Herbert Spencer's words: "The belief is not to be resisted that the inheritance of functionally produced modifications takes place universally."[4] Pathological races, if I may use such a word, thus tend continually to appear, a tendency as constantly disturbed by atavism. Virchow speaks of atavismus "als discontinuirliche Vererbung." But he says, "wahre Atavismus ist stets erblich,"[5] and is to be distinguished from mere arrest of development from, let us say, a theromorphic heart due to intra-uterine endocarditis. Thus again, in a microcephalic child, we must distinguish between "pithecoid atavism" and "pathological pithekismus," a distinction not always easy; and, again, say, between slight degrees of hypospadias and the alleged inheritance of circumcision. Once more we have to distinguish not only between theromorphism and atavism, but between maladies essentially and accidentally related, as, for instance, in hemiplegia, between a palsy due to embolism and one due to rupture of a diseased artery, and again between groups of maladies which are essentially connected in the individual but accidental to his family. For instance, tabes dorsalis is often seen in association with diseases of the heart and aorta, but this association may be due to the introduction of syphilis, and the establishment of a new series thereafter. It is only by the careful record in pedigree of every malady, great or small, and the comparison of many such series, that we shall learn thus to distinguish and to separate the accidentally from the essentially related members of them.

Again, we may group—say, under the name of gout—a series which would contain kinds of dyspepsia, of arthritis, of phlebitis, of arteritis, of nephritis, of angina pectoris, of migraine, of hypochondriasis, of insanity, of eczema, of glycosuria, of neuritis, of bronchitis, of tonsillitis, of hæmorrhoids, and so forth, including probably many other terms which have not as yet been so attributed, such as hæmophilia, as suggested by Mr. Hutchinson. It is obvious that to complete such a series as this or the former, not only would an individual life be inadequate, but so would be the best of clinical pedigrees. It could be completed only by the comparison of a vast number of family histories, and these not within the limits of one family or of one race, but of many, and not on one plot of the earth's surface, but on all. The comparison of such a human series with those obtained by observation of animals will lead us to the uric acid mode of oxidation in birds, a state normal to them, as Dr. Laycock reminded us, so that gouty families may appear to be a kind of birds.[6]

Again, a neurotic series may consist of other kinds of insanity, of chorea, of eczema, of pruritus, of angina pectoris, of gastralgia, of asthma, of sneezings, of flatulence, of catarrhs, of migraine, of hysteria.

If for lack of material I cannot trace out the affinities of disease as detected in the pedigree of man, still slighter must be any attempt to indicate these affinities in the pedigrees of horses, cattle, or other animals and plants. That special groups of diseases would be notable in such pedigrees I already believe. Roaring, for example, associated no doubt with other special morbid peculiarities, occurs in horses of certain strain. Certain breeds of dogs, such as white terriers, are more liable than others to distemper[7]; bassets are very subject to eczema; and breeders of families of horses, sheep, cattle, dogs, and so forth, would be able to tell us that in animals of definite pedigrees each strain tends to present morbid phenomena in more or less definite and contrasted groups; but, as few animals have been subjected to artificial selection, such comparisons are only possible in those few species. It might perhaps be easier to prove definite morbid proclivities in varieties of plants; but in such a case as "gumming," for example, it may be difficult to distinguish between an autogenous malady and an inherited affinity for some external morbific agent, a large subject which may interest us presently.

The historical method.—Passing from heredity, as time compels me to do, we have three other methods for our use—namely, the historical, the geographical, and the experimental. The historical method leads to the philosophical in all studies, and no less in nosology. Unhappily, this study has scarcely yet emerged from the prehistoric period. We have to learn how changes of function become in generations change of structure, and how therewith come changes of inverted or morbid function, and this soonest in the highest and least organised parts—that is, of the nervous system, the adapter and organiser. Of heterogeneous maladies we must not, indeed, forget in how many low forms of living organisms are concerned which may vary more than higher organisms, and thus change the sufferings of their victims. Nay more, it would seem that between the infective and passive organisms there is some law of equivalent adaptations ending in the curious immunities of individuals, families and races which seem to correspond with the wonderful impregnations and sterilities of sexual congress. Scanty and indefinite as are the records of human diseases in earlier times, of the diseases of plants and animals we have little or none. That the diseases of men, of animals, or even of plants, have been the same in the far off past as we now see them is contrary to the evidence of more recent time and to the cognate evidence derived from the comparison of racial types. The slower or quicker accumulation of changed characters which results from the action of environment and variation on successive generations must have been visible on the morbid as well as on the normal side of life.

Comparative nosology has to investigate the morbid characters of the races which recent anthropometrical research has done so much to distinguish; but beyond the records of certain striking immunities and susceptibilities, nothing has been done in this direction, and I find myself almost without material for the discussion. Dr. Joseph Coats, of this city, justly observes (THE LANCET, Jan. 14th, 1888) that Hirsch not only avoids this aspect of comparative nosology, but minimises the influence of racial peculiarities as much as possible, though he is compelled to admit many

[2] Compare here the Bradshawe Lecture, by Sir James Paget, in 1884.
[3] Darwin, A. and P., ii., 270. [4] Factors of Evolution, p. 35.
[5] Virchow's Archiv, vol. cliii.
[6] Mr. Bland Sutton states that tophaceous podagra has been rarely seen in birds. [7] Darwin, A. and P. D., contains many such facts.

facts of the kind against his own inclination in favour of the action of the environment. This, of course, is the attitude of an ardent geographer; and indeed, in a new subject, it may be that all true causes should be pushed to extremes, that we may see what they will cover. But shrewd observers have said for many a day that "breed is stronger than pasture;" and we cannot fail to see how alien races, on the same ground, may and do differ in their features. I will take a few homely instances of racial characters in disease.

I wrote to Dr. Beddoe of Bristol, whose practice lies near the Marches, where racial types are more distinct, to ask him what contrasts, if any, are to be seen between the maladies of the older and newer races in the west of England and Wales. He replied that the phenomena of disease in the "Celts" "differ undoubtedly and, in some ways, curiously" from those in the "Saxon." He goes even deeper, and suggests certain elections in the maladies themselves, attributing cancer rather to dark-haired people, and after them to the rufous, and noting in dark people melancholia, but not especially other forms of insanity, and noting chorea and epilepsy in the two extremes of light and dark.

Sir William Roberts writes to me as follows:—"Easterns, of whom there are many in Manchester, are markedly more susceptible to neurotic troubles than the English—I speak of the males. Greeks, Syrians, Armenians, and Eastern Jews are very much inclined to hysteria, 'visceral neuralgias,' as you would call them, and so forth. I have known all the children of a Greek family pass through a period of profound hysterical disturbance, both boys and girls, extending over the two or three years about puberty, and then pass on to a more steadfast and nervous equilibrium. In a like degree I have observed that Welshmen are unduly inclined to be *malades imaginaires*."

We may inquire whether the nervous instability of Anglo-Orientals is due to their transplantation to new conditions of life. Possibly even in the Welsh the pressure of an alien civilisation may set up an instability extending over many generations, for, reversely, we know that a relative organic perfection of body and mind was attained by the Attic Greeks.

The Dutch are so near akin to the English that their contact with us involves little clashing of temperament, and little change of circumstance. Yet the Dutchmen, whom I see occasionally from Axholme, Crowle, Epworth, and other parts of eastern England, seem to have a seal of morbid as they have of normal constitution. They tend to long life and to the deposit of fat. They are rarely the subjects of irritative neuroses, but rather to mesoblastic deteriorations—to dilated heart, venous stagnations such as chronic œdemata, varicose veins and hæmorrhoids; to apoplexy, and to chronic senile dementia dependent on vascular defects. They seem to be a people of stable nervous equilibrium, not very liable to disturbance from without, and who die, so to speak, rather by gravitation than "driven from their orderly spheres."

Dr. Macdougall of Carlisle, whose home is now in Carlisle, but who has experience both in the Highlands and in the Lowlands of Scotland, tells me that the Scotch Celt when he is sick is "essentially a despondent man ..... hope vanishes with the onset of disease ..... that this is in many instances due to the lack of nerve force," he adds, "I have little doubt."

Of the Scotch generally Dr. Macdougall notes a "relative rarity of purely nervous diseases, believing this people to have stronger and more stable nerve centres as gifts of heredity, derived perhaps from a slower speed in the race of life." "Cancer," he says, "is unquestionably more common in Cumberland than in any other of the border counties." The exceeding rarity of gout in the Scotch he does "not regard as a fixed racial attribute, seeing that the impress of gout is still obvious in those older families whose pedigree may be retraced to days when smuggled wines were cheap, when the use of them was as free as their effects were prejudicial." This is a most interesting observation, and it has lately been publicly made also by Dr. Martin of Portlaw.

I need but refer, as I pass, to the many strange and extreme forms of hysteria seen in the French people and described by Professor Charcot, forms and degrees of it which are rare in England, and rarer in our northern counties than in the southern. Hysteria, in its eminent types, is seldom met with in Yorkshire. The Arab, Dr. Bertherand says, is not liable to tetanus. The poison of beri-beri, oddly enough, does not attack Europeans until they have lived in the district of it for some time; then they become liable to attack. But for all Aryans—for Europeans and Hindus, let us say, whose habits are so different—its death-rate is low; the average death-rate for all races being 34·6 per cent., and even 51·9 for Chinese; for the European it is 28·6, and for the Hindu 27·8; for the Japanese it is only 12·4. Mr. Darwin has said that these fixities of inheritance are not merely results of antiquity, but are probably necessary correlations of growth.

Not only may we accumulate many more instances, but we may add others from the phenomena of poisons of lower series. The black pigs spoken of by Darwin as unaffected by the blood-root, and the white pigs which are injured by buck-wheat, and, most curious of all, the horses which are poisoned by honeydewed vetches and by fools' parsley only in respect of the white parts of them, come to mind.[8] The tolerance of morphine by rabbits, again, is well known; but to my mind the strangest of these cases is that of the tsetse fly, which is only fatal to domestic animals, such as the ox, horse, and dog, while the buffalo, zebra, and jackal, bitten at the same time, graze on unharmed.[9] Man is bitten, but does not suffer; nor do dogs reared wholly on game; but if fed on milk they die, yet all young sucking animals are safe so long as they suck only. Inoculation is no defence, nor any length of life in the district. By the study of concomitant variations there is some law to be found here which will explain, not only these cases, but a whole group of cases in which morphological and even racial similarity are compatible with enormous physiological differences; deductions cannot, therefore, directly be drawn from the results of experiments in one animal to another; such experiments serve rather to promote the building of a series. The differences probably consist in some simple and general condition, such, for instance, as the quantity or intensity of oxidation; in any case it is erroneous to say that the phenomena of disease must differ clinically according to class, and it seems as if we must learn some other perspective of facts than the scale of life and death. But at the same time we must not forget how many are the pitfalls to be avoided by the inquirer, how many the conditions to be observed. For example, Mr. Sutton has shown that avian tuberculosis is not essentially peculiar to graminivorous birds, as was supposed, but is propagated rather in them by the manner of their feeding.[10]

Finally, I will refer with the utmost brevity to some facts in the constitutional diseases of animals; and herein I would especially acknowledge my debt to Mr. Bland Sutton, not on y for his facts and his large views of pathology, but also for the generosity and tireless pains with which he explains them to pertinacious correspondents. The quadrumana, though so near to man, cannot bear a low temperature. They do not die of phthisis, as commonly asserted, but of bronchitis with atelectasis, and this the more as they are exceptionally liable to rickets. Indeed, rickets and rheumatism are so common in animals as to seem fundamental diatheses. Rheumatism attacks in animals, as in man, the left side of the heart almost exclusively,[11] and pericarditis is also a common complication. Rickets in animals leads to far more terrible results than in man. But, says Mr. Sutton, "in mammals each group seems to exhibit predisposition to some maladies and absolute immunity from others"[12]. For instance, we find pulmonary affections thus distributed: (1) Primates (excluding man): bronchitis, atelectasis, lobular pneumonia. (2) Carnivora: bronchitis, double pleurisy, lobar pneumonia. (3) Ruminantia: bronchitis, pearl-evil, parasitic bronchitis.[13] Sclerosis, both in tracts and disseminate, peripheral neuritis and perforating ulcer are found in animals,[14] the so-called "chorea of dogs" being due to sclerosis. Dogs are also subject to tabes. Chronic nephritis, either as a sequel of acute or as an independent affection, is found in horses, and "arterio-capillary fibrosis" may in rare cases be associated with it.[15]

Geographical method.—How have the morbid varieties of man arisen? The answer to this question, like that of the origin of races, lies in the dark backward and abysm of

[8] Darwin, A. and P. D., c. xxv., ed. 1888.

[9] Vide Livingstone's "South Africa," and Anderson's "Lake Ngami." London, 1856.

[10] Journal Comp. Med., October, 1886.

[11] J. Bland Sutton, Diseases of the Vascular Mechanism in Animals, Path. Trans., vol xxxvii., p. 573.

[12] Extract from private letter, June 5th, 1888.

[13] Sutton, Path. Trans., vol. xxxvi., p. 548.

[14] Sutton, Gen. Path., p. 27. [15] Sutton, Path. Trans., vol. xxxvi.

time. We can only say in general terms that as we look backward we find the natural variation of organisms to be more and more under the control of external circumstances, so that, to study the geographical conditions of variation, we must have especial regard to areas long undisturbed, and must register in these the phenomena of morbid variation with the qualities of soil, aspect, seasons, atmosphere, food products, and so forth. Again, as we must not confound nations with races, so must we not confound kingdoms with physiological areas. Mr. Haviland, whatever the ultimate value of his propositions, based as they are upon the features of a mixed, highly modified and shifting population like our own, has at least impressed these principles upon us with great industry and originality. We have also to observe the effect on long-settled tribes of their removal to new areas, such removals, if harmless to individuals, being often attended by morbid consequences to the tube of a very remarkable kind,[16] and likewise the rapid changes which follow a break in the uniformity of external conditions, as, for instance, when a more adaptable race penetrates into the area of a race which has grown into its own climate and has hardened under simple rules and customs into a fixity of type.[17] A close study of the diseases of isolated savage peoples may thus indicate to us simpler stages of our own maladies. For in the migrations of tribes, certain races would succumb to climatic changes which others would surmount and would gain thereby a greater flexibility and development and a greater capacity for further change, the highest partsof the highest organisms being the most mobile.[18] These changes, with their intimate correlations of growth, teach us the lesson again that, as in various families, so in various regions, we must work out in each not only the prevalence of diseases taken singly, but more especially the schedules of its diseases, noting both coexistences and respective degrees of intensity. The United States statistics and Mr. Haviland's inquiries seem to be the only serious attempts yet made to study the genetic affinities of constitutional diseases by the geographical method. The field is enormous, the discrimination of facts most difficult, and general conclusions almost impossible at present—*Qui respiciunt ad pauca facile pronuntiant.*

Experimental method.—Finally, let us consider the results of experiment. Experiment likewise will teach us that drugs and poisons do not vary in their clinical effects upon living beings by gradual augmentation of differences, but by "leaps and bounds," as "musical flames" respond to scales of vibration; it will teach us thus once again that clinical types can be no basis of nosological classification.

Great diversities, contrasts, and strange conjunctions of morbid phenomena do not necessarily signify great divergence of nature in morbific agents, and a classification of disease cannot, therefore, be made only or mainly by putting together like groups of morbid phenomena, but must be made by putting together those groups which, however disparate outwardly, belong to the same series. Can we, then, experimentally test the affinities of morbid groups so as to sort out the like and the unlike, to separate those which only mimic each other from those which are *ἀντοφώνι ὅμοιοι*—alike to the core. Dr. A. M. Brown notes the startling fact "that the most terrible poison (cyanhydric acid) forms the chemical skeleton of that cellular nucleus which is the most active phenomenon of vitality. An internal change which converts a benignant or anabolic molecule into one of dire and destructive malignancy may be exceedingly small. This seems to be equally true whether we consider the products of normal or of abnormal metabolism or the effects of poisons in the body. How strange it is that as the highly organised molecules of our bodies fall into lower orders, giving way to the ascending series, these lower substances take, not a relation of indifference or of mere inconvenience to the former, but of positive and violent antagonism; so that by virtue only of incessant excretion we incessantly escape destruction by those of our own household. It seems to me that as "ptoma-ines" and "leucoma-ines" are classified and their generation detected and distinguished in diseases springing from various causes, and from the various organs of the body, and as these substances again are synthetically obtained, they ought to serve as one test series for our purposes. A fundamental distinction of this kind seems to have come out already—namely, that poisoning by extractives in general is attended by hyperthermia, and that poisoning by animal alkaloids is attended by hypothermia.[19]

Hoppe-Seyler has extracted another substance having peculiar attributes from the spleen, which he has called "adenine." Gautier, again, has shown that there is a distinction between alkaloids formed by bacterial and those formed by normal bio-chemical action,[20] though no doubt intermediate substances may exist in any or every degree. The phenomena of isomerism suggest to us how large differences in effect may come about with a rearrangement of molecular groups, and without any change in the sum of their chemical composition. No doubt the highly complex molecular units of tissues in the different varieties and species of animals have a large play of this kind, and may admit of various internal recompositions, and show reactions as various as we see in the relation of saliva to the poison of serpents.

My friend Professor Thorpe, in discussing this matter with me and the strangeness of it, points out the fact that even so simple a body as kakodylic acid, which contains 70 per cent. of arsenic and is perfectly soluble, is yet a non-poisonous body; and he refers especially to the cyanides and carbamines as complex molecular aggregates showing widely different reactions to one or similar agents.

Dr. Weyl[21] shows that chrysarobin is powerfully poisonous, while its near relation—anthrarobin—has absolutely no action on the living organism, however administered. Although anthrarobin has a great affinity for oxygen, yet it is detected unaltered in the urine. The albuminoids of course have these characters in increasing degrees, but are more difficult to handle.

Those animal extractives and alkaloids which have as yet submitted themselves to the chemist are of no high degree of complexity, and are probably common to a very large part of the animal kingdom, and work on planes far below those on which the highest functions are developed. We should not, therefore, expect to find any test reactions from them which would differentiate human diseases from those of organisms a little, or even much, lower in the scale. The behaviour of bodies of lower degrees of complexity may be better studied in humble forms of life and in plants, in which latter organisms the simpler alkaloids play a very important part.[22] If we first learn what special orders of oxidation there are for the generation of motion in the several classes of plants and animals, beginning with the simplest, we shall see how the perversions of such oxidations may differ in the different classes.

The general factor which becomes of next importance to isomerism is inhibition. As we rise to higher and higher planes of function we enlarge the office of inhibition. Every higher order of motion regulates, or in other words inhibits, that of the order below; so that if we could discover a series of counter-potent agents, corresponding in catabolism to the successive planes of complexity in warm-blooded animals, let us say they would give us the means at each stage of neutralising the dominant function on that plane, so that we should be able in plane below plane to liberate each in order, and thus to reveal a series of morbid states caused by the enfanchisement of orders of activity proper to lower stages of life.[23]

Drs. Fraser and Crum-Brown revealed to us years ago the great conversions of activity resulting from small molecular substitutions, and the change of selective affinities for animal tissues shown by molecules thus artfully varied in one or a few atoms. Drs. Brunton and Cash[24] tell us that the distinctive action of the lower members of the fatty series is their stimulant and anæsthetic action on the nerve centres. The members of the aromatic series also affect the nervous system, but more the motor than the sensory centres, causing tremor, convulsions, and palsies. Again, a substance has been isolated from the spleen by Morell, which has a paralysomotor action with powerful effect on the medulla oblongata,[25] and this substance should be carefully and repeatedly tested upon animals in which the homologue of the medulla is the upper centre, as well as

[16] Darwin: Descent of Man, i., 291 et seq.

[17] Vide Bagehot's most interesting essay on Physics and Politics, 8th ed., 1887.

[18] The brain of civilised man is nearly 30 per cent. larger than that of the wild man.

[19] Dr. A. M. Brown, quoted by Sir W. Aitken, "Animal Alkaloids," 1887.

[20] Vide Sir W. Aitken, loc. cit.

[21] Nature, June 7th, 1888.

[22] Cf. Mr. Walter Gairdner, Proc. Roy. Soc., Nov. 24th, 1887.

[23] Compare Dr. Hughlings Jackson, "Croonian Lectures," 1884.

[24] Proc. Roy. Soc., March 31st, 1887.

[25] Vide Sir William Aitken, loc. cit.

upon all others. Some drugs have a large reducing power, such as curare, by means of which a mammal may be reduced to a cold-blooded animal, whose temperature varies with the atmosphere. By testing such agents over a large series of animals, and by systematic replacement of molecules, we might find the means of subtracting inhibition on successive planes, and so discover some serial order in the resulting diverse morbid phenomena, and form a table of genetic affinities which would show how the proximate principles of higher organisms are the ultimate of the lower.

Wide and untrodden are the Marches which still lie between organic bodies such as those and the mobile and complex molecules of living matter. In these the potentialities of change are as infinite as their functions. We have little common measure as yet for chemical and vital reactions; but we see, as we have seen already in our discussion on races, that as the same chemical or vital agent or even different doses of the same agent may exercise, and in numberless cases does exercise, an enormously different influence upon organisms which are very closely related, so closely allied organic substances may cause reactions seemingly very different in the same organism. Mazy and dissolute as from outside these phenomena may appear, they have, nevertheless, radical and ramifying laws, and classification by genetic affinity is one method at least of discovering them, and of explaining to us wherein consist those changes, so vast physiology, so small phylogenetically and morphologically.

Gentlemen, many of us too well know conditions and times of abasement; times when we see Nature beautiful, magical, but remote, unmindful, pitiless; when we humble ourselves in silence before "Him who fastened the foundations of the earth, who spread His light upon it and balanced the clouds of the air, who binds the sweet influences of the Pleiades and guides Arcturus with his sons; who gave to the horse his strength, and goodly wings unto the peacocks, and who is King over all the children of pride." But the time and circumstance of this Convocation bring not these moods of awe and withdrawing, but surely those of hope and uplifting even to victory; for, like Jacob at Penuel, we have striven with the Great Unknown, not without prevailing. Our mood to-day is rather that of Sophocles in the well-known words of the Chorus of the Antigone, "Wonders are many, and none more wonderful than man; the power that crosses the white sea, driven by the stormy south wind, making a path under surges that threaten to engulf him; and Earth, the eldest of the gods, the immortal, the unwearied, doth he wear, turning the soil with the offspring of horses, as the ploughs go to and fro from year to year.....And he masters by his arts the beast whose lair is in the wilds, who roams the hills, he tames the horse of shaggy mane, he puts the yoke upon its neck, he tames the tireless mountain bull. And speech, and wind-swift thought, and all the moods that mould a state, hath he taught him elf; and how to flee the arrows of the frost and of the rushing rain; yea, he hath resource for all; without resource he meets nothing that must come: only against Death shall he call for aid in vain—*νόσων δ' ἀμηχάνων φυγὰς ξυμπέφρασται*—but from baffling maladies he hath devised escapes."[26]

ABRIDGED REPORT OF THE

Address in Surgery

Delivered at the meeting of the British Medical Association in Glasgow,

BY SIR GEORGE H. B. MACLEOD, M.D.,

REGIUS PROFESSOR OF SURGERY IN THE UNIVERSITY OF GLASGOW, SURGEON IN ORDINARY TO THE QUEEN IN SCOTLAND.

ON THE PROGRESS OF SURGERY DURING THE LAST HALF-CENTURY.

AFTER a few opening remarks, Dr. Macleod continued as follows:—

It is my wish, in the time devoted to this address, to attempt a brief epitome of the leading advances which Surgery has made during the auspicious reign of Queen Victoria, as that period is naturally suggested by recent events, and is one over the greater part of which my own recollections extend. It is fully admitted that in every department of human knowledge our half-century has been signalised by a progress greater, more momentous, and more permanent than any other in the world's history; and in this advance medicine in all its branches has so largely and bountifully shared that even a bare recital of what has been done fires the imagination and makes the heart throb with triumph.

Since 1837 all the collateral sciences on which medicine so largely leans have been in a great measure reconstructed, and the very foundations on which our art is built have been in no small measure relaid. In 1837 the doctrines of Broussais, which had been accepted with the enthusiasm of a revelation, and had deeply imbued the surgical as well as the medical practice of the day, had spent their force. Hahnemann and Brown, Gall and Spurzheim, had come and gone with their disturbing influence, and men turned wearily from the discussion of mere doctrines and the dogmas of authority to a careful study, aided by experiment, of *facts*. Many remarkable discoveries in mechanical science, especially that of the achromatic microscope (1824 and subsequent years), the spectroscope, and the applications of electricity, powerfully contributed to the rapid progress of biology, morbid anatomy, pathology, and chemistry. In 1838 Henle and Mandl made known what their countrymen had then accomplished, and the members of the German school have ever since been the most enthusiastic and competent workers on these subjects.

The most distinguishing features of the period under review (1837 to 1887) have undoubtedly been anæsthetics and antiseptics. They are both "epoch-making" discoveries. Each has done almost as much for surgery as the discovery of hæmostatics, and when combined may, I think, be said to excel even steam and electricity in their gracious benefits to mankind. Though from the earliest times men sought for the means of allaying pain during operation, and numerous imperfect methods (as that of Dr. James Moore of this city, the younger brother of Sir John Moore, by compressing the nerves) had been tried to effect it, yet the statement of Velpeau, published in 1839, may be taken as expressing the opinion held seventeen years before the great discovery: "All research for an agent to destroy pain in operations is a mere chimera and unworthy of further consideration." Suddenly, however, the riddle was solved by one who, recalling the experiments of Humphry Davy with nitrous oxide and sulphuric ether, dimly perceived the use they might be put to in surgery. Whatever credit in this matter may belong to the unfortunate Horace Wells, it was really Mr. Morton who worked out the practical application of ether, and in the theatre of the Boston Hospital may still be seen the sponge by which it was administered on that memorable October morning in 1846. Many of us can still recall the enthusiasm which that discovery evoked, and the unbounded anticipations which it suggested. After the abortive trial of various other agents chloroform was brought into use by Sir James Simpson, within a year of the time when attention was directed to the subject. This, the most valuable of anæsthetics, was discovered by Soubeiran in 1831, and had been shown to be a powerful anæsthetic by Flourens some years afterwards. Many years have passed, but we remember with amused astonishment some features of the warm controversy which arose regarding these agents—the frivolous objections ("religious" and other), the endless discussions and statistics—the hopes and fears which were expressed. It is not, perhaps, too much to assert that the relative merits of these and other anæsthetics, which I need not stop to enumerate, have not even now been universally determined.

Local anæsthesia in its present form is also a conquest of the last half century, and though many agents possess this power, and some of them, like cocaine, are specially valuable for particular purposes, the finely divided ether spray introduced by Dr. Richardson (a distinguished student of the Glasgow school) in 1866, is more efficient and easy of application than any other for practical purposes. Finally, as regards this point, I may note that Braid of Manchester, who published in 1843 on hypnotism, caused much interest in a system which had been largely tried in India, but which has now fallen entirely out of use. I need hardly say that anæsthesia has changed the whole face of surgery. "The lion heart" is no longer the requisite of a surgeon. Finesse and manipulative skill now take the place of force. Innumerable operations are rendered possible which could not before be attempted, and the surgeon has benefited

[26] "Antigone," 332-364, Jebb's translation, 1888.

almost as much as his patient. It was in this school that the other great improvement of our time, the use of antiseptics in surgery, was practically applied; so that I might be pardoned if I spoke warmly and enthusiastically of that invaluable discovery. But as its principles and practice (though doubtless much modified and simplified of late years) are so well known, and have been so much discussed in former addresses to your Association, and in the whole range of our professional literature, I have no excuse for dwelling upon it at any length now. Suffice it to say that, notwithstanding all the criticism and opposition which it has met with, the fundamental principles on which it rests remain, in my humble opinion, unassailable, and that it has led to practical results—not alone in its immediate effects, but in the discussions and studies which it has produced—which have, in an extraordinary degree, widened the domain of our art, diminished the sufferings, and saved innumerable human beings.

There is no more interesting study in surgical history than the development of our present practice as regards wounds, from the blind groping of the surgeons of last century, to discover the secret enemy which baffled their best efforts, to the brilliant dawn which we have been permitted to see. The proper use and best form of deep and superficial stitches and dressings are also now well established, and the reign of dirty sponges and foul instruments and hands has passed away for ever. Modern pathology has put an end to the keen controversy which for 150 years bulked largely on surgical attention regarding purulent infection. The direct absorption doctrine of Boerhaave held the field to the middle of the eighteenth century, and was followed by the hydraulic, the metastatic, the spontaneous generation, the phlebitic (in various forms), and other theories, till Virchow (1846-56) threw a new light on the subject by his researches on thrombosis and embolism, after which the investigations on sepsin, blood ferment, and micro-organisms explained what was still unintelligible.

As a result of the misfortunes of the Crimean war, and to a less extent perhaps from the alarm caused by the cholera epidemic of 1852, the construction and organisation of hospitals and other public institutions have received more attention during the last twenty-five years than during the previous seventy-five which had elapsed since Tenon wrote. The official statement in 1861 of the insalubrity of the Parisian hospitals—where it was said that it was the exception for a patient to recover from any important operation, so that many of them had to be abandoned from the effects of that "hospitalism" to which Sir James Simpson in 1860 vividly drew attention—helped largely the progress of this question. That intra-mural hospitals are, however, on their trial, cannot be doubted, notwithstanding the immense addition which antiseptics have made to their salubrity; and the multiplication of village infirmaries, country adjuncts to city hospitals, and convalescent institutions since 1860, is evidence of the belief that smaller establishments in rural districts meet modern ideas more nearly than huge piles without space for fresh air and recreation, in the dense and polluted precincts of our great cities.

Of the advances in doctrine and practice since 1837 much might be said. Not only has general anatomy been greatly advanced, but pathological anatomy has been created, while physiology has become a new and practical science under the influence of experiment. Chemistry has also been reconstructed. Experimental and microscopic research have elucidated in a remarkable manner the whole phenomena of inflammation and the febrile condition. The blood and its vessels, the reaction of the tissues involved, the part played by the nerves, the nature of the exudations, with their destinations and changes, as well as the growth, degeneration, and metamorphosis of structures, have all been laboriously studied by the aid of the microscope and by chemical processes. It was within the years 1838–39 that the cellular pathology was born. It took the scientific world by storm. Though no doubt it can be plausibly asserted that both John Hunter and Raspail dimly foreshadowed it, certain it is that Schleiden, Schwann, and Müller laid its true foundations, while Virchow and his pupils worked it out. Constant advance continues to be made by the use of new and improved methods of research, so that our knowledge of the ultimate elements of the tissues is daily increasing. An immense scientific activity followed the year 1840. Within a few years almost all the tissues and organs and the secretions of the body, both in their normal and altered conditions, were laboriously studied, and the phenomena of the respiratory, digestive, and nervous systems, as well as the great subject of embryology, which throws so much light on congenital deformities, were largely investigated, and by none with more ability than by my late colleague, Professor Allen Thomson.

Within the last half century, and especially since the discovery of anæsthetics, all surgical operations have been greatly improved, and many new ones have come into use. The operator being no longer hurried, or his feelings harassed by the sufferings of his patient, and happily possessing better control of the result, is left free to plan and conduct his operation without embarrassment. In this progress of operative surgery amputation has largely shared. The improved methods of arresting bleeding, both during and after operation, have essentially contributed to its perfection. The indiarubber (1873), and more lately the spiral wire tourniquets of Esmarch, and the "bloodless" system, though now no longer carried out as at first practised, which these appliances rendered so easy of application, have been of the most eminent service in amputations and excisions, as well as in all operations on bones and deep structures. The old method of closing arteries by torsion—used by Galen and Avicenna, but more especially studied by Amussat in 1829—was much in vogue a few years ago; but it and acupressure—described by Heister and many others—which Sir James Simpson (1859) supposed would supersede all other hæmostatic methods, have been replaced by the antiseptic ligatures now in use. The modern practice of using water at a temperature from 120° to 160° F. for the arrest of oozing is in my experience admirable.

Excision of joints and resection of shafts of bone, now of daily performance, were by no means common at the time of the Queen's accession. True, most of the articulations had been cut out during the last century,[1] but it was not till Syme published his book in 1831, giving an account of his results in shoulder and elbow operations, that the practice became general. Syme says that in 1826 amputation at the shoulder was the rule for disease of the head of the humerus; and even as late as 1844 Fergusson says excision of the elbow had not been done a dozen times in London. Syme afterwards—as Langenbeck also—removed the scapula as well as the head of the humerus rather than amputate the arm. In dealing with the knee joint, however, Syme failed, and it was reserved for Fergusson and his pupils, with Jones of Jersey, after 1850, to secure, amidst much opposition, that assured position for excision of the articulation which it now possesses.

Operations on the jaws, which were so much dreaded fifty years ago, that excision of either bone was not infrequently preceded by the ligature of one or both carotids and by tracheotomy, are now performed with very little hesitation or risk. In 1844 both upper maxillæ were removed for the first time by Hayfelder, and in 1842 Maisonneuve excised both lower jaw bones.

Tenotomy is practically another conquest of the last half-century, as it was only in 1831 that Stromeyer perfected what was before a most incomplete process, and made it applicable to many uses.[2] In 1835 Dieffenbach's work on club-foot showed how great had been the advance since Scarpa wrote in 1804. Little's book in 1837 started the practice of tenotomy in England. During recent years greater liberty is taken in the division of structures, but the antiseptic system has emboldened operators to adopt methods, some of which are both unnecessary and retrogressive, as in the open plan of treating club-foot. The excision of the astragalus, however, or the removal of a wedge from the tarsal bones may possibly be necessary in some very bad cases.

Within the half century aneurysm has been much studied in all its aspects, and its treatment has been simplified, though the methods of dealing with it have been greatly multiplied. It has been shown to be curable by the rapid coagulation of the contained blood, and not alone by the lamination of fibrin and contraction of the sac, a fact long denied; and this has suggested some of the most recent methods of dealing with it. Up to 1842, when the Dublin surgeons laid down the proper mode of using compression

[1] The head of the humerus by White in 1768, the knee by Park in 1781, and the elbow and ankle by Moreau in 1797.

[2] Hunter divided the tendo Achillis for purely experimental purposes, and in 1784 it was cut in the human subject, as the sterno-mastoid was in 1822, but in neither case subcutaneously, as that term is now understood.

and improved the mechanical means of carrying it out, it may be said that the ligature was alone employed, for though compression in some form—on the surface of the tumour or within it after it was opened, or over the whole limb, or proximal or distal to the sac separately or combined—had been long in use, it was on a wrong principle, as the whole current was stopped and inflammation intentionally produced in the vessel. But whether applied by instruments or the hand (Vanzetti, 1846), the modern method, up to a very recent date, aimed at not entirely arresting the blood flow so as to promote a deposit of fibrin. This dates from between 1840 and 1850. The enthusiasm with which it was pursued for some years has been hardly maintained, from the difficulties attending it, and its not infrequent failure. In some positions, however, it will be always employed; and the remarkable success in abdominal aneurysm obtained by Murray (1864), and in iliac aneurysm by Heath and Mapother, applied to the proximal side under chloroform, has been most encouraging. The method of applying the ligature, which was the great achievement of Hunter (1785), together with the practice of Brasdor and Wardrop (1825–1827) and Anel, have been again much discussed of late years, and distal deligation has been frequently applied with signal success. Antiseptic buried ligatures, with antiseptic dressings, have again placed the use of the ligature in the ascendant, though it would be difficult to excel the success of Syme, who tied the femoral thirty-five times with only one failure before the modern methods were introduced. Since 1852, when Thiery used flexion at the elbow, Mr. Hart and others have applied it to small firm aneurysms of the popliteal with marked success (1858). Galvanism, first used by Phillips in 1832, was unavailing for aneurysm until Petrequin (1845) and Ciniselli improved the apparatus and the methods of employing it. Of less important plans we have had introduced since 1837: Fergusson's somewhat dangerous "malaxation," Blake's displacement of clots by cataract needles, electrolysis with fine needles, acupuncture, now used by leaving gilded entomological pins for days in the sac, acupressure to the main vessel, coagulent injections (ergotine by Langenbeck in 1869, perchloride of iron, alcohol, acetate of lead, tannin, various acids, &c.), foreign bodies, as iron wire, horsehair, &c., passed into the sac (Loreta) or combined with galvanism (Barwell). These plans have been chiefly used when the aneurysm was so placed as to be inaccessible to the more reliable methods, and a certain amount of success has attended them. Finally, I may note that the confidence of the profession in the iodide of potassium has increased of late years as an internal remedy in aneurysm; and that the sedative effects of the bromide of potash are found of great service.

Modern research has greatly advanced the pathology and treatment of fractures and dislocations. Between 1847 and 1855 great attention was bestowed on these accidents. Astley Cooper's pioneer work (1822) did much for the elucidation of these subjects, which were then involved in great confusion; but it is to Malgaigne (1847), more than to any other man, and after him to Smith of Dublin, Hamilton of New York, and Gurlt of Berlin (1860), that we owe our present accurate knowledge. Nothing could excel Malgaigne's systematised and exhaustive researches. Treatment by weight and pulley of fractures of the lower limb, introduced in its present form from America in 1867, but in use forty years previously, is a distinct improvement over the cumbrous long splint. The "immovable apparatus" of the Arabian and Greek surgeons, as varied and improved since 1834 by Seutin, Dieffenbach, and others,[3] gives us great advantage in dealing with fractures. Many "mouldable" materials, too (such as poro-plastic and gutta-percha), which from their lightness and close application to the part are of inestimable service, have been added to our resources of late years.

The surgery of the genito-urinary organs has been greatly pursued since 1837, and the mechanical appliances for treatment much improved. The pathology of stricture has been carefully worked out, and the treatment fitted for each variety discriminated. When chemistry had demonstrated the composition of urinary calculi, it was hoped that their solution within the body would be shortly accomplished with the same ease as it was attained in the laboratory. After many and varied attempts in different countries, this has been abandoned, as has also the use of galvanism alone or with chemical solvents. At present, this hopeful field of research may be said to remain barren of results.

For over fifty years lithotrity has been gaining ground, and since 1878, when Bigelow introduced his litholapaxy, the whole practice has been so changed as to constitute an entirely new operation. The greater capacity of the urethra which Otis demonstrated, the immensely greater tolerance of the bladder to the presence of instruments which Bigelow showed to exist, and the improvements in the apparatus for breaking up and removing the fragments, together with the use of anæsthetics, have all combined to establish the triumph which has undoubtedly been achieved. The extension to young boys (even to infants, as has been lately shown) of the advantages of lithotrity has also been attained, so that great size and extreme hardness are almost the only obstacles which now stand in the way of its universal application. With a better knowledge of the causes which produce calculus, an earlier recognition of its presence, and the modern system of removing it entirely at one sitting, it may be said that one of the greatest of human calamities has been nearly overcome.

Lithotomy had attained to great perfection before 1837, in the hands of many surgeons in all countries, and in none more than in Scotland. The "methods" employed in different schools were very numerous, though the lateral operation, performed with the gorget or the simple knife, was that most followed in Great Britain. Very many modes of opening the bladder were in use in France, and there the now popular hypogastric operation originated (with Franco in 1561), an operation which, by the use of antiseptic dressings and Petersen's (1880) rectal bags (suggested by Garson's experiments on frozen bodies in 1877), has been reintroduced as practically a new procedure. The supra-pubic method was largely practised by Cheselden and Frère Côme, who, by the way, used a perineal drain.

I cannot leave this part of my subject without at least referring to the remarkable advances which have been recently made in the surgery of the kidney; the confidence with which it is now stitched to the parietes when movable or opened for drainage, or for extracting a stone (Morris, 1880), and the safety with which it has even been entirely removed (first, by Simon of Heidelberg, in 1869) has contributed to the solution of most interesting physiological as well as surgical questions. Then the ready removal of some growths from the bladder by perineal or supra-pubic incisions, and the admirable results got by MacCormac and others by suturing the ruptured bladder (an idea thrown out by Benjamin Bell in 1789) and cleansing and draining the pelvis are clear and important gains to practical surgery.

During the last half-century venereal diseases have received great attention and a new interpretation. Ricord, in 1838, by his experimental proof of Todd and Bell's views regarding the distinction between gonorrhœa and syphilis, removed the confusion which long followed Hunter's teaching on that point; but his views on the unicity of the virus were overthrown by the researches of his pupil, Bassereau, in 1852, and the dualists were left entire masters of the field, Ricord giving his adhesion to their doctrine in 1857. Now, Mr. Hutchinson proclaims that doctrine as "dead," and the soft sore as being due to the inoculation of syphilitic pus, in which there is no virus, or in which its active qualities are destroyed. There can be little doubt that constitutional disease often follows sores in which there is no characteristic hardness of base; but specific hardness, if present, is still of the utmost clinical significance.

In recording the improvements in surgical practice in the department of the genito-urinary organs, I would very shortly note the greater command we now possess over fistulæ in the male and female organs, brought about by improved manipulative methods. These improvements date chiefly from 1839, when Hayward of Boston took up vesico-vaginal fistula, and Marion Sims and Bozemann introduced wire sutures, covering plates, improved specula, and the knee-elbow position. The labours of the unfortunate Jobert de Lamballe in this department should not be forgotten.

The surgery of the female reproductive organs is an immense subject, and has risen to the highest repute well within the half-century, and has recorded triumphs of the highest importance to the comfort and life of thousands. Very many operations have been performed for the first

[3] Plaster of Paris, starch, glue, silicates, dextrine, paraffin, gum and chalk, paper and starch, &c.

time within the last few years, and others have been brought to great perfection. It has been unquestionably the extraordinary success of ovariotomy which has led to the rapid progress of abdominal surgery. We claim for Houston of this city (1701) the pioneer place in ovariotomy, though his operation was but the draining, and not the removal, of a cyst. M'Dowal of America (1809), to whom the initial step is usually ascribed, and who operated in all thirteen times, was admittedly incited thereto by the teaching of John Bell of Edinburgh, whose pupil he was. Lizars of Edinburgh operated repeatedly about 1825, and Clay afterwards continued the practice amidst disappointment and obloquy. Certainly ovariotomy was on all sides met with ridicule and contempt! In 1823, Boyer says, "The least reflection suffices to show the dangers and impossibility of this operation, which has never been performed, and which never will be," and its position, shortly before it was taken up by Sir Spencer Wells (1857-59), is best shown by quoting Sir W. Lawrence's query whether it could be any longer pursued "without damage to the character of the profession." It is undoubtedly to the experiments of Wells on the union of serous surfaces and drainage, and subsequently on the command of bleeding and the treatment of the pedicle, that we owe the present position of the operation, though others have done much to make it not only a justifiable but an eminently safe operation, when the disease is early recognised and a careful aseptic condition assured. Many most important operations in obstetric surgery have been introduced of late years, but these lie beyond my present theme. Cysts connected with the liver and peritoneum, abscesses in the abdomen, fluid in the Fallopian tubes, extra-uterine fœtation, excision of portions of the bowel, intestinal obstruction, cholecystotomy (Sims, 1878), improved Cæsarean section, and many other grave operations, have been frequently performed, especially in America, within the last ten years.

Colotomy, though suggested by Callisen in 1800, was really not put into practice till 1839, when Amussat, meditating on the death of Broussais from cancer of the rectum, determined to reintroduce it, notwithstanding its condemnation as impracticable by both Dupuytren and Velpeau.

Pathological research has done much within the half century as to the large and important subject of new growths. Much, however, remains to be done. Since Müller, in 1838, brought neoplasms within the pale of the cellular pathology, and Virchow added so much to our knowledge, innumerable workers, aided by many new or improved mechanical contrivances and beautiful methods of preparing sections for microscopic examination, have turned their attention to the subject. A simpler classification and arrangement have resulted, with a better understanding of the clinical progress and results of tumours.

In no department of surgery has so much that is new and notable been achieved as in injuries and affections of the head. Much has been done, both by experiment and clinical observation, in the localisation of the phenomena of motion and sensation, and though much remains to be done which can only be cleared up by long and accurate research, still results have been garnered sufficient to give a confident hope that before long a complete and reliable map of the brain will be at the service of the practitioner. The brain areas which supply the face, the tongue, the limbs, and the muscles of respiration have been clearly defined by British and foreign physiologists. Clinical observations on man have supplemented experiments on animals, and already fruitful practical results have been obtained, so that the trephine has again come into use, but on far different grounds from those theoretical ones which guided its application at the beginning of the century. The first operation for the removal of a cerebral growth planned on the modern physiology was performed so recently as 1885. The new American perforator is much more precise and speedy than the old trephine, especially when worked by the "surgical engine," which has been invented for driving saws and perforators In the treatment of affections of the spinal column, Sayre's plaster jacket and its modifications have greatly helped treatment, as have also the systematised exercises of the Ling and Roth methods in lateral curvature.

The improved laryngoscope of Czernac (1858) and Turck, which was the legitimate outcome of Babbington's "glottiscope" (1820) and Garcia's instrument of 1854, has been invaluable in affections of the throat and nose. Excision, partial or complete, of the larynx dates from 1866, and has now been many times repeated with increasing success, though its adoption in simple growths seems indefensible. Intubation of the larynx is another interesting subject which promises important results. Amputation of the tongue has reached its acme of simplicity in Whitehead's practice with scissors, a bold proceeding rendered possible by the improvement in mouth gags. I have been accustomed to use the écraseur or the thermo-cautery, and am not inclined to abandon them, as they have proved reliable instruments in such serious operations. Numerous improvements have been made in operations on the palate, and in the construction of substitutes for it (especially those by Kingsley of New York, since 1844), as well as in the closure of harelip; but time prevents me referring further to them. External (Watson of New York, 1884) and internal (Maisonneuve, 1861) division of undilatable stricture of the œsophagus are proposals of recent years; while gastrostomy, first suggested in 1837 (the year before the celebrated case of St. Martin allowed the subject of digestion to be carefully investigated), has been rendered infinitely more safe by Howse's proposal to secure adhesion between the stomach and the parietes before opening the viscus.

The draining of cavities in the lung has been added recently to our operative and curative resources with encouraging results. The difficulty lies more in an exact diagnosis of the position of the cavity than in the risk of the operation itself, for when there is but one to deal with, and it lies at the base of the lung, and the pleura is adherent over it, the operation is comparatively simple. The whole subject of empyema has been carefully studied within the last few years, and the operation and its subsequent management by drainage and cleansing greatly advanced. Resection of the ribs ("thoracoplasty") and of all unyielding structures, so as to admit of more complete draining and collapse of the cavity, which was a startling suggestion only five or six years ago, is now frequently and successfully performed, and has been the means of saving not a few lives which otherwise would have been slowly and hopelessly destroyed.

In no department of surgery has better work been done in our time than in that of hernia. Here the influence of antiseptic surgery has been very apparent, as it has emboldened surgeons to attempt the permanent cure of rupture in a more complete way than could be achieved formerly,—the sac, in whole or in part, being employed to plug the internal ring, where it is secured either within or without the abdominal cavity, and supported by bringing together the pillars with catgut or wire. Such practice provides a more permanent and reliable barrier to the descent of the bowel than the unstable products of inflammation. Many other points of practice, too numerous to be recorded, have been amended in recent times, as the conservative treatment of injuries of the hand, the management of scrofulous masses by excision, scraping and the electro-cautery, and the discriminate use of caustics and the proper field for the various forms of cautery, whether actual, or gas and electric. The galvano-cautery was first used in England by Professor Marshall in 1850, but to Middeldorpff of Breslau we chiefly owe its sytematic use in a large variety of surgical cases, where its rapid action, manageability, and the very light which it emits can be utilised. It can never, however, replace the knife for the mere division of structures, nor the actual cautery for counter-irritation in chronic inflammation. Electricity has made great advances as a practical agent since 1872. In experimental physiology, and as a diagnostic and curative agent, Erb's recent work will do much to promote its more precise use. To Duchenne (1855) must, however, belong the credit of having first recognised its importance; and it is probable that, with the aid of improved batteries and the modern "accumulator," better work will be done in the near future. Among the many ingenious and useful instruments for clinical research and demonstration, the ophthalmoscope stands pre-eminent. Foreshadowed by Babbage in 1847, its present important position in ophthalmic surgery is due to Von Helmholtz, who took it up in 1851, and with Ruete perfected it as a clinical instrument. To it we owe a knowledge of the pathology of the deeper structures of the eye, and the suggestion of various operations which have proved of the greatest service. The introduction of cocaine, since 1884, as a local anæsthetic, has added largely to the progress of ophthalmic surgery. The otoscope, the laryngoscope, and other similar instruments naturally followed on the construction of the

ophthalmoscope, and have been fruitful of good in their respective departments. The sphygmograph, made practically useful by Marey in 1860, realising the idea of Hales (1748) and of Herisson's sphygmometre, has largely aided the diagnosis of many conditions of the circulatory system, and by its pictorial tracings secures permanent records of their variations. The sphygmophone, which professes to render the arterial sounds audible, is still of no practical use. The endoscope, which was much improved by Désormeaux, after 1853, has never attained a practical position from the difficulty of using it, and the limited field to which it can be applied. Recently, however, Leiter, by using the smallest Edison lamp, and improving the construction, portability, and cost, has provided an endoscope which may possibly promote its employment. The thermometer, first used in medicine by Boerhaave and his pupil, De Haën, has become one of the most important clinical guides in consequence of the researches of Traube (1850), Wunderlich, and Zimmermann.

The beautiful discovery of skin-grafting by Reverdin, in 1869, provides us with a valuable resource in many difficult cases of delayed repair and deformity. The permanence of such grafts is not, however, as yet fully assured. The transplantation of periosteum, muscle, bone, nerve, and even eye tissues, has also been achieved of late years under the magic shield of aseptic surgery. Hydrophobia promises to be deprived of its terrors. Extensive burns are no longer dangerous when kept free from pollution, as the intestinal lesions which Curling drew attention to (1842) are now known to be due to septic poisoning. Nerves are stretched, with or without previous exposure, to the relief of many complaints; nay more, divided nerves and tendons also are successfully united by suture. Thermal, chemical, and sea baths have their appropriate domain assigned them. Cod-liver oil and many concentrated foods, easy of assimilation and rendered more so by the addition of digestives, have come into use. Patients are no longer reduced by diet, purging, and bleeding, or blindly over-stimulated with alcohol, but a dietary founded upon their requirements is prescribed before and after operation. The therapeutic advantages of change of scene and climate are fully taken advantage of, as the means of locomotion have been improved and cheapened. Of the innumerable new drugs with which chemistry has endowed us many highly valuable ones have come into general use, while greater concentration and more elegance have been employed in their manufacture. The surgical instrument maker has, by his ingenuity and skill, simplified and improved the surgical armamentarium, and for every purpose has supplemented our manual dexterity.

I have thus, in the limited time at my disposal, and to the best of my power, noted the changes and improvements in surgical theory and practice which have emerged during the last half century. The task I set myself has proved longer and more difficult than I anticipated, as the harvest has been extraordinarily abundant. I am conscious of having omitted much from want of time and knowledge; but I trust I have succeeded in showing that in every branch of the surgical art there has been a wondrous advance, and that the profession to which we belong marches in the very van of the great army, recruited in all climes, whose aim it is to enlarge human knowledge. Such a retrospect as I have attempted makes us reverence a profession whose hope and ambition it has ever been to abate suffering without distinction of race or creed. We see how an abiding and ever-increasing purpose has run through these long ages, and that while we now rejoice at being no longer bound by the authority and crude doctrines which shackled our forefathers, we can yet honour the traditions of the past and appreciate the efforts of that great host of devoted men who have by their unselfish labours built up the famous temple of our art.

WEST OF ENGLAND SANATORIUM, WESTON-SUPER-MARE.—Some time since, in view of the tide receding for some distance from the institution, it was proposed to construct baths within the boundaries of the sanatorium. The cost was estimated at £2000. Towards this sum the lady superintendent has collected £500, and an anonymous donor has given a similar amount. The half of the estimated cost thus raised has stimulated additional efforts to make up the balance, and with this object a sale of work has recently taken place at the rectory, and realised £85 6*s.* 3*d.*

Address
ON
THE SURGERY OF THE BRAIN AND SPINAL CORD.

Delivered before the British Medical Association,

BY WILLIAM MACEWEN, M.D.,
SURGEON TO THE GLASGOW ROYAL INFIRMARY.

MR. PRESIDENT AND GENTLEMEN,—Allow me to thank you for the exceptional honour you have conferred upon me by inviting me to address the British Medical Association on my recent investigations in surgery. It would have been more in harmony with my own feelings to have brought before such a meeting the work of others, but that the form of invitation explicitly precludes. From among the various subjects which have engaged my attention, it would have been difficult for me to have singled out one as especially worthy of notice. Fortunately, I was so far relieved from that decision by receiving a very direct hint from one whose position in the Association demands respect. In obedience to that expressed wish I now venture to address you on the Surgery of the Brain and Spinal Cord, a subject which has been of much interest to me, and which I hope may not prove uninteresting to you. In doing so it is necessary to premise, in the briefest possible form, the history of the evolution of cerebral surgery.

The surgery of the head in the past.—Lesions of the head have at all times held a prominent place in the annals of surgery. Much has been done by surgeons to advance the healing art as applied to this particular region. Their efforts have been, however, chiefly directed to the superficial parts, the skull and its membranes, and were exclusively confined to the results of injury. Their operations were simple, undertaken, for the most part, upon the primitive evidence of direct visual and tactile observation. There is no reference made by them to cerebral surgery as it is now known. The brain, whose function was at that time little understood, inspired fear; it was intimately associated with the seat of life; it was the mysterious dome of thought; it gave lodgment in its recesses to the soul; and was surrounded by all the mysticism which a highly speculative philosophy inculcated. Although surgeons did not share the popular belief that to touch the brain was to induce certain death, yet they had just grounds for concluding that to them it was practically inviolable. It was no want of boldness or lack of manipulative dexterity, in which indeed they greatly excelled, that determined this reluctance in dealing with brain lesions. Post-mortem examination revealed the fact that many cerebral lesions could have been easily reached had the surgeons only known during life at what particular part they had been situated. There were two formidable barriers to the advance of surgery in this region—first, the fact that the majority of intracranial operations were attended by inflammatory action, which so often proved fatal as to cause surgeons to shun active interference; and secondly, the brain was a dark continent in which they could descry neither path nor guide capable of leading them to a particular diseased area, and did they attempt to reach it, it could only be by groping in the dark. Therefore they were constrained to confine their efforts to traumatic lesions, and of these to such as afforded external indications of their presence, and which called out clamantly for relief. From the days of Pott to our own there seemed to be a growing conviction not only of the impotence but of the positive harmfulness of active interference, so that the trephine was regarded as an almost obsolete instrument. Yet surgery was fully abreast of the physiology of the day. Such was the state of cranial surgery till 1870.

Two factors necessary for the introduction of cerebral surgery, and how they were obtained.—However one might wish to extend the sphere of surgery to the brain, it was necessary first to adopt means whereby immunity from the inflammation which so constantly attended brain lesions could be secured; and, secondly, to endeavour to gain a better physiological knowledge, in the hope that light might be shed upon the localisation of cerebral lesions. In

the wards of the Glasgow Royal Infirmary, Lister had formulated the theory and wrought out the practice of the antiseptic treatment of wounds, and already much had been done to dissipate the fears of surgeons regarding operations practised on other parts of the body. Experience gained by me showed that not only compound fractures of the skull but large osseous defects in the cranial vault, accompanied by extensive loss of cerebral substance, were quite amenable to treatment, exhibiting no tendency to inflammatory action as long as the tissues were preserved aseptic. When this held true of the rough and often septic lesions produced by machinery accidents, how much surer would well-planned and carefully executed operations be? This conclusion was subsequently amply confirmed by the results of operations undertaken by me for the relief of injury in which the brain had to be exposed, and from which detached portions of it had to be removed. In such instances no inflammatory phenomena interrupted the even course of healing. A striking feature of these wounds of, and operations upon, the brain was the absence of false hernia cerebri, which had hitherto formed such a conspicuous complication of brain lesion in man, and which had so often marred the success of physiological experiments by extending the zone of irritation, and by the fatal results which ensued. It was thus manifest that inflammation arising from exposure of, and operation upon, the cerebrum could be obviated under aseptic conditions. Meanwhile, many workers had been sedulously endeavouring to unravel the intricate and complex questions relating to the structure and function of the brain.

Previously the cerebrum was supposed to perform its functions as a whole in the same way as the liver, heart, and kidneys performed theirs, there being no differentiation of function. Broca in 1861, from observations on human pathology, isolated a particular limited area as the seat of the faculty of articulate language. This very important investigation foreshadowed the localisation of function in other cortical centres, for if the existence of a definite function confined to an isolated area were admitted, then the question arose, How many other centres with specialised functions might there be? Broca's discovery was thoroughly iconoclastic; it shook the notion entertained regarding the unity of brain function to its foundation, it awakened thought and made men explore anew with critical eyes fields which previous investigators were supposed to have exhausted. Dr. Alex. Robertson of Glasgow suggested in 1866 that there were separate sets of fibres for the conveyance of special motor impulses from the cortex. Hughlings Jackson in 1869 stated that there were many limited areas on the brain connected with separate and distinctive functions, founding his opinion not on speculative deductions, but on clinical experience, and on the direct observations of pathological facts. The inception of the idea that there was a portion of the brain whose function was related to motion was treated with extreme scepticism, and the suggestion was likely to have long remained a speculative question had it not been for the advent of another and more direct mode of examination. This new departure consisted in the performance of experiments upon the lower animals by Fritsch and Hitzig, who in 1870 published an account of their observations. They demonstrated the existence of a series of circumscribed areas on the surface of certain of the cerebral convolutions, the electrical stimulation of which caused on the opposite side of the body co-ordinated movement in distinct groups of muscles. These were momentous facts, destined to revolutionise former ideas of cerebral function. But their full force and significance were not recognised, in this country at least, until Ferrier's observations on the brains of animals, undertaken to put to an experimental proof the views entertained by Hughlings Jackson, were published in 1873. Then the mind of the physiological world was fairly awakened. The suggestion of Hughlings Jackson on the motor cortex became crystallised. Another link in the unity of plan of creation was manifest, as even in the higher and more complex brain of man parts existed whose function found homologous expression in that of the lower animals. Abundant proof has been gathered from human pathology, such as that afforded by the elaborate observations of Charcot and Pitres, to put beyond cavil the broad fact that there are points in the human cortex cerebri intimately related to motor and sensory functions of certain parts of the body. The apportionment of definite areas and their precise delimitation is still the subject of investigation.

Many interpretations have been put on these facts. Some hold that the central convolutions are distinctly motor in function, some that they are sensory, others that they are both motor and sensory, and still others believe that the excitable regions of the cortex are but points of departure and not foci of production of motor reactions. These views, interesting in themselves, cannot be discussed here; it is enough for our present purpose to recognise that there are certain regions of the brain in intimate relation with the movement and sensation of certain parts of the body, and which in the presence of either irritative or destructive lesions give rise to phenomena which are of the greatest diagnostic value.

The initial history of cerebral surgery.—This extended physiological knowledge enabled cerebral lesions to be more accurately localised, whilst my experience showed that by preserving aseptic the parts operated on surgical interference with the brain would be robbed of its chief danger.

1. *Case in which the symptoms of focal cerebral disease led to diagnosis of lesion in Broca's lobe.* (See Fig. 1.)—While

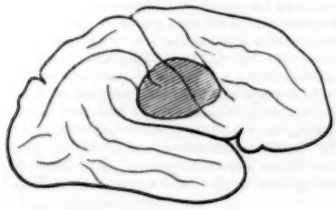
FIG. 1.

in possession of this knowledge a case of cerebral abscess presented itself to me in July, 1876. The general symptoms of this affection were clearly manifest. A cicatrix on the forehead marked the site of an injury, under which the skull was bare. Had this cicatrix been taken as a guide to the localisation of the abscess and an operation performed there, no abscess would have been found. But other phenomena were exhibited which enabled its seat to be definitely recognised. A convulsion, accompanied by loss of consciousness, commenced on the right side, and gradually involved the whole body. On its cessation, absolute hemiplegia of the right side was present and remained for two hours, during which the patient was aphasic. Both these phenomena became much less marked at the end of this period. From these symptoms the abscess was diagnosed to be situated in the immediate vicinity of Broca's lobe. It was evident that the whole of the base of the left third frontal was not involved in a destructive lesion, otherwise the aphasia would have persisted for a much longer period, and it was probable that Broca's area had become involved in the inflammatory zone surrounding the abscess. Trusting to these localising symptoms, it was proposed to open the abscess aseptically by exposing Broca's lobe. Unfortunately, the result of a consultation was decidedly to negative this proposal. The parents then refused consent, notwithstanding the assumption by myself of the sole responsibility of advising and performing the operation. Thirty-six hours afterwards the convulsions returned and persisted until a fatal issue ensued. After death the friends acquiesced in the proposal to have the operation performed just as it would have been had permission to do so been granted during life. The skull was trephined, the brain exposed, and an instrument was introduced through the third frontal convolution for half an inch, when pus flowed through the incision, proving the accuracy of the diagnosis, and giving poignancy to the regret that the operation had not been permitted during life. The abscess, about the size of a pigeon's egg, was situated in the white matter of the bases of the second and third frontal convolutions. The blade of the bistoury, which had been left *in situ* after insertion through the trephine opening, was found to have penetrated its outer wall. The congested zone in the periphery of the abscess extended from the anterior horn of the lateral ventricle to the cortex of the base of the second, but especially that of the third left frontal convolutions. Here the precise spot in the brain which the abscess occupied was accurately determined from the localising phenomena induced by the focal lesion, which were trusted as indicating its position, though pointing to a different part of the brain from that which would have been selected had the seat of injury been accepted as a guide. The operation showed how easily the pus could have been evacuated, though the unfortunate refusal to allow it

to take place during life leaves uncertain the ultimate issue, but, judging from my subsequent experience, worse cases have recovered after operation.

2. *Case in which motor phenomena were the sole guides to the cerebral lesion.* (See Fig. 2.)—In 1879 a case with

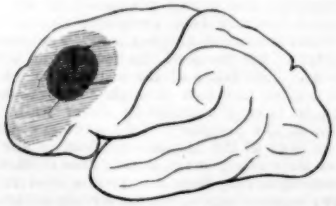
FIG. 2.



definitely localising motor symptoms was seen by me, occurring in a boy, who had had a fall six days previously, which occasioned some slight bruising about the face and head, accompanied by a shade of mental obscuration. At the termination of forty-eight hours he was so well that his parents could with difficulty be dissuaded from allowing him to rise from bed. On the sixth day he had a series of convulsions, the twitchings beginning in the left side of the face, gradually involving the left arm, and subsequently the left leg, during which consciousness was preserved. Paresis of the parts remained, though sensation was unimpaired. On the following day there was a renewal of the convulsions, the parts being affected in the same order, but the convulsions persisted, and finally became general with loss of consciousness. The motor phenomena indicated a lesion on the right side of the brain, pronounced at the lower portion of the ascending convolutions, as the face and arm centres were the first to show evidence of stimulation. The lesion was evidently of an irritative nature, such as might be occasioned by a spiculum of bone driven into the brain, or by a degree of pressure exercised on its surface. It was clearly not destructive, such as might be occasioned by severe cerebral contusion. Dr. Alex. Robertson was asked to see the case, and agreed with me that the motor symptoms presented a sufficiently clear guide to the localisation of the lesion in the lower part of the ascending convolutions. It was therefore resolved to expose that portion of the brain. As a preliminary, the head was shaven, when a scarcely perceptible irregularity was detected in the cranial vault near the coronal suture. When the skull was exposed, a fissure was discovered running across the coronal suture. Trephining was performed at a point slightly behind the auriculo-bregmatic line, and midway between the external auditory meatus and the vertex. This point happened to correspond to the posterior extremity of the fissured fracture. There was no blood between the dura mater and the skull, but the dura had a very dark colour. This membrane was opened, and gave vent to two ounces of fluid and coagulated blood, contained in the subdural cavity. The operation was conducted aseptically, and the patient made an uninterrupted typical afebrile recovery. There was no recurrence of the fits, the paralysis of the left arm soon disappeared, and he is living now, and in perfect health.

3. *Case in which the symptoms exhibited pointed to lesion in the frontal lobe.* (See Fig. 3.)—In 1879 an idiopathic case

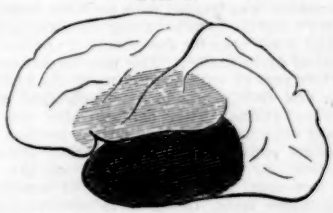
FIG. 3.



came under observation, in which the totality of the symptoms indicated a lesion in the left frontal lobe of the brain. It occurred in a patient the subject of a small tumour above the left eyeball in the orbital cavity. A tumour had previously been removed by me from that position, and it had now recurred. Other symptoms had, however, meanwhile presented themselves. The left pupil was in a state of stabile myosis; there was obscuration of the intelligence, slowness of comprehension, want of mental vigour, and pain in the head. These pointed to the probability of a lesion in the left frontal lobe, but were not sufficient to permit a diagnosis to be made. The patient was therefore placed under the observation of an educated, skilled nurse. Some weeks later a series of convulsions occurred, the initial stages of which were carefully recorded by the nurse, without which the key to the brain lesion, as indicated by the convulsions, would have been lost, as, when seen by me, they had become general, and threatened speedy dissolution. The convulsions were at the outset strictly confined to the right side, commencing in the face and arm, and confined to these two parts during the initial attacks; the leg on the same side was affected during the third seizure, and ultimately the convulsion became general, with complete loss of consciousness. These phenomena were construed as indicating extension of the irritation to the lower and middle portions of the ascending convolutions; and when this was considered along with the former evidence, it was concluded that an irritative lesion existed in the left frontal lobe. On these grounds it was resolved to trephine midway between the centre of the ascending convolutions and the anterior aspect of the cranium. At this point a minute nodule the size of a barley grain was detected on the outside of the skull. A large trephine was applied, a disc of bone removed, and a tumour of the dura mater, which was exercising pressure on the brain, was exposed. It was half an inch in thickness at this point, gradually becoming much thinner and spreading all over the anterior two-thirds of the frontal lobe. The tumour was, after a prolonged operation, carefully dissected out, along with the brain membranes, where they were involved in the neoplasm. The patient rapidly recovered, was restored to perfect health, and subsequently was able to gain her own livelihood. She lived for eight years afterwards, ultimately becoming affected with chronic Bright's disease, from which she died. The skull and brain were examined, and there was no trace of further tumour growth. This case was published in 1879. A paper by me illustrating some points in the localisation of cerebral affections and the advantages of antiseptic trephining, published in 1881, concludes: "When the skull can be opened, the cerebral coverings incised, and the brain exposed without fear of inflammatory mischief, trephining ought to be employed when the localisation of the lesion is established, and further, besides operating in traumatic cases, trephining is justifiable in idiopathic cases."

4. *Cerebral abscess in temporo-sphenoidal lobe; involvement of motor area; operation; death.* (See Fig. 4.)—In

FIG. 4.

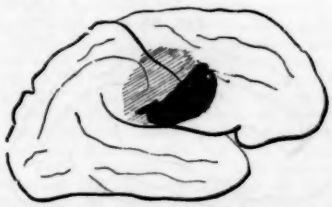


1881 a very large cerebral abscess, located in the temporo-sphenoidal lobe, but involving the bases of the third frontal and ascending convolutions, came under notice, but at such a late period of the disease that before arrangements could be made for the operation the patient suddenly exhibited all the phenomena of the abscess having burst into the lateral ventricles. Prior to this, aphasia could be discerned through the clouded state of the patient's intelligence; there was paralysis of the left third nerve and of the brachial and facial muscles on the right side. From these the extent and localisation of the disease were determined. Notwithstanding the fact that the patient was *in extremis* the operation was performed. The membranes were congested, and the abscess was reached on penetrating a quarter of an inch of the cerebral surface. After several ounces of pus had been evacuated, something like a tennis ball was seen floating in a sea of pus which still remained in the interior of the brain. This proved to be an old encysted abscess, in the periphery of which an acute abscess had developed,

which had destroyed the whole of the temporo-sphenoidal lobe. The patient, though greatly relieved, died from exhaustion. It was seen at the post-mortem that the whole temporo-sphenoidal lobe had disappeared, and the bases of the second and third frontal, as well as the bases of the two ascending convolutions were the seat of acute encephalitis.

5. *Intra-cranial effusion of blood diagnosed from motor symptoms alone.* (See Fig. 5.)—There are three other cases,

FIG. 5.



which occurred in 1883, to which brief reference may be made, as two of them have already been published. In May of that year a traumatic intra-cranial effusion of blood was correctly diagnosed from the motor symptoms exhibited, as being located over the base of the ascending convolutions. There were no external marks of injury, and the motor symptoms alone were the guides to the position of the lesion. The patient is now alive, in robust health, and regularly at work.

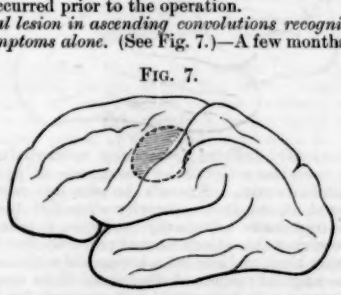
6. *Syphilitic tumour in paracentral lobule diagnosed from motor symptoms alone.*[1] (See Fig. 6.)—In the following

FIG. 6.

month (June, 1883) a case of brachio-crural monoplegia without loss of sensation was relieved by the removal of a syphilitic tumour from the paracentral lobule, and a plastic effusion from the centre of the ascending convolutions. Within a week the patient had recovered the power of the lower limb, and within a month was able to walk and perform her household duties. She has continued since in fair health, and can walk long distances, though with a hemiplegic gait, a certain amount of structural contraction having occurred prior to the operation.

7. *Focal lesion in ascending convolutions recognised from motor symptoms alone.* (See Fig. 7.)—A few months later, in

FIG. 7.



1883, a brachial monoplegia was correctly diagnosed, a focal lesion being found in the white substance of the motor cortex of the middle portion of the ascending convolutions. The lesion was an extravasation of blood into the brain, around which encephalitis had occurred, inducing irritation and compression of this area. The relief given was immediate and complete. The patient has since been in perfect health, and regularly at work.

With the relation of these seven cases, all of which occurred prior to the end of 1883, the initial history of the movement ceases to be solely personal. In December, 1884, Dr. Bennett and Mr. Godlee, assisted by Dr. Ferrier, had the first case operated on in London in which a tumour was removed by Mr. Godlee from the brain.

Reference may now be made to a few points regarding the present aspects of cerebral surgery.—First, are the localising motor phenomena reliable guides to the diagnosis of cerebral lesions, situated in the motor cortex? My answer is unhesitatingly affirmative. Each case, however, requires to be studied on its own merits, the whole phenomena presented, the *unobtrusive* as well as the prominent features must be carefully searched for, the degree in which each is present must be accurately measured, and the whole weighed and compared with former experience before drawing a conclusion. The various points upon which reliance is to be placed should be tested, wherever possible, by instruments of precision, instead of the rough impressions conveyed by the hand being trusted. In testing the power of the muscles in brachial paresis, the dynamometer will impart much more accurate information than that which can be gained through the sense of touch, and occasionally shades of difference may be determined by it which otherwise would remain undetected. In many cases the evidences of focal lesions are so distinct that a diagnosis is easy; in others they are so intricate that a prolonged and minute investigation is necessary to decipher them; while there are still others in which the signs are so perplexing that at best an approximation only can be arrived at. To lay bare a certain known convolution in a cerebral surface and observe the result of its stimulation is an easier task than to take what appears to be a tangled skein of nerve phenomena, such as is presented by many lesions of the complex brain of man, and to relegate each to its true source, and infer from a study of the whole what particular parts of the brain are affected.

8. *Epilepsy (Jacksonian) induced by focal facio-lingual lesion; removal of cyst from brain; cured.* (See Fig. 8.)—

FIG. 8.

In support of the foregoing, the following instances are adduced, and a case is first presented in which the symptoms were so definite and precise that the diagnosis was easy and permitted me to perform the operation on first seeing the patient. He was twenty-two years of age, and suffered from epileptiform convulsions, each lasting from two to three minutes, and as they occurred on an average every five minutes, he consequently had over 100 in twenty-four hours. The convulsions were limited to the tongue, the right facial muscles and the platysma on the same side. When they subsided the parts remained paralysed. Consciousness was retained throughout. Eight years previously he received an injury to the head, after which his right arm became weak, the weakness persisting though he was quite able to work. It was clear that an irritating focal lesion existed, confined to the base of the ascending convolutions, causing a Jacksonian epilepsy. The only question was, whether the base of the ascending parietal was involved as well as that of the ascending frontal. The contraction of the platysma on the opposite side has been asserted to be induced by stimulation of the base of the ascending parietal. Dr. Whitelocke reminded me, however, that the platysma is often supplied by a branch of the facial, so that a single lesion in the base of the ascending frontal would be sufficient to account for the whole phenomena. The operation was at once undertaken, when in the lower part of the ascending frontal, a cyst about the size of a filbert was found situated partly in the cortical and partly in the white substance of the brain, and was surrounded by a narrow zone of encephalitis. In manipulating the medullary substance, in process of removal of the cyst, the patient while under chloroform had a convulsion, confined to the same group of muscles as were affected in his fits prior to the operation. The con-

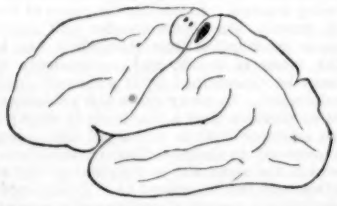
[1] Case shown at the Pathological and Clinical Society, Glasgow, Jan. 24th, 1884; afterwards printed in the Glasgow Medical Journal.

vulsion ceased with the removal of the cyst, and he has never since had another. The wound healed firmly under one dressing, the paralysis of the facial muscles soon disappeared, and he has since been constantly at work. The power of the right arm has also been increased. Possibly the cyst might have caused indirectly slight pressure on, or set up an inhibitory action of, the middle portion of the ascending frontal.

This case affords important evidence of the position occupied by the facio-lingual centre in man, and on the whole corroborates that assigned to it by experiments on the lower animals. It was also interesting to note, when the part of the brain was exposed and irritated, that it gave rise to the same kind of convulsion.

9. *Protospasm of the hallux, preceded by sensory impressions and followed by paralysis.* (See Fig. 9.)—In

FIG 9.



another instance a very definite protospasm, accompanied by a sensory impression, gave the key to the localisation. It occurred in a girl aged seven, the subject of frequently recurring attacks of severe epileptiform seizures, followed by paralysis of the affected parts. At the onset of these attacks the patient first experienced in the great toe of the right foot a painful sensation, of such severity as to cause her to scream out. Shortly afterwards, that toe was firmly extended in tonic spasm, which lasted about five minutes. Sometimes this ended the attack. More frequently it was followed by clonic contractions of the muscles of the right foot, leg, and thigh, where the convulsions often terminated. Occasionally they extended to the muscles of the trunk, then to those of the right side of the face and right arm, the contractions ceasing in the order of accession; rarely did they involve the opposite side, and when they did the patient lost consciousness. Though there was motor paralysis in the affected parts, the cutaneous sensibility remained unimpaired. From the great number of fits which the patient had, following each other in rapid succession, occurring in parts affected with paresis, the result of former attacks, while the cutaneous sensibility remained unimpaired, and from the limited area affected it was concluded that the lesion was cortical. The sensory impression in the hallux, followed by tonic and then clonic contraction of the same part extending to the lower limb, pointed to the upper region of the ascending convolutions as the area of irritation. From the general condition of the patient and family history the lesion was probably tubercular, and, if so, might be multiple. During operation the upper portion of the ascending convolutions was exposed and, with the exception of a few tubercular nodules the size of barley grains adhering to the vessels over the upper part of the ascending frontal, there was nothing visible on the surface. On careful palpation of the ascending convolutions there was found in the upper part of the ascending parietal a circumscribed nodule buried in the brain substance, which on exposure by cutting through the grey matter was seen to be a tubercular tumour about the size of a hazel nut, which was easily shelled out. As an immediate result there was prolonged trepidation of an erratic kind, affecting the muscles of the right side of the body, but especially those of the arm and leg. These were continuous for fully a week, thereafter gradually subsiding. There have been no fits for over a year, and the girl is now in excellent health. The marked sensory impressions which the lesion produced support Dr. Gowers' opinion, that the parts in the so-called motor area subserve a sensory as well as a motor function. The localisation of the movements of the hallux in the upper part of the ascending frontal has not been borne out by this case (unless the minute barley grain tubercular nodules attached to the vessels in the pia mater could account for the stimulation), the tumour being found in the upper part of the ascending parietal, but the whole lesion could be included in the ring which Beevor and Horsley place on the upper portion of the ascending convolutions.

Other instances.—A brachial monoparesis, accompanied by sensory impressions confined to the same parts, has already been alluded to, in which though the centre of both ascending convolutions was involved, yet the chief lesion was confined to the ascending parietal, and implicated both its medullary and cortical substance.

10. *Brachio-crural monoplegia; cyst removed from brain.* (See Fig. 10.)—In another case, occurring in a boy of three years,

FIG. 10.

a brachio-crural monoplegia with late rigidity was present, the result of a traumatism received eight months previously. This case was kindly sent me by my colleague Dr. Dunlop. In it a large thick-walled, subdural cyst, containing clear fluid, was found pressing upon the motor convolutions, and a spiculum of bone detached from the inner table of the skull was seen to have penetrated the brain. These were removed and the bone was placed in normal position. The patient made an uninterrupted recovery. The paralysis with the contraction of the muscles passed off to a great extent. He could neither walk nor stand before the operation. Now he can run about and use his hand well, though there is still a paresis in both. With these data from my own experience, as well as from cases reported by Messrs. Godlee, Horsley, and many others, it is clear that the motor and sensory phenomena form reliable guides to localisation of lesions in the central convolutions.

Diagnosis of cerebral lesions in non-motor regions may be made from sensory phenomena.—The following instance shows this, and is also an example of the difficulty in finding the exact clue to the lesion, and how easily it may be overlooked.

11. *Psychical blindness the guide to a hidden lesion in angular gyrus; interesting medico-legal aspects; removal; recovery.* (See Fig. 11.)—A man who had received an injury

FIG 11.

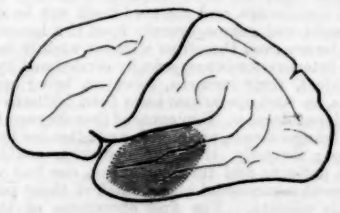
a year previously suffered from deep melancholy, strong homicidal impulses relieved by paroxysms of pain in the head of indefinite seat. Though the pain was excruciating he welcomed it, as it temporarily dispelled the almost irresistible impulse to kill his wife, children, or other people. Prior to receiving this injury he was perfectly free from impulses of this kind, and had led a happy life with his family. Behind the angular process of the frontal there was a slight osseous depression, which could not account for his symptoms. There were no motor phenomena, but on minute inquiry it was discovered that immediately after the accident, and for about two weeks subsequently, he had suffered from psychical blindness. Physically he could see, but what he saw conveyed no impression to his mind. An object presented itself before him which he could not make out, but when this object emitted sounds of the human voice he at once recognised it to be a man who was one of his fellow-workers. By eyesight he could not tell how many fingers he held up, when he placed his own hand before his face, though by the exercise of his

volition in the act, and by other sensations, he was cognisant of the number. He had been in the habit of reading the New Testament, and when he had so far recovered from his injury, he wished to resume his reading. He knew where the book lay near his bed, and could put his hand on it in the dark. One day he stretched out his hand, took the book, recognising it through the sense of touch by its smooth leather covers and the deeply indented letters on its back; he opened it, saw what he considered must be the letters, and the blocking of them into divisions for the words; but they were unknown symbols to him, they conveyed no impression of their meaning, the memory of their signs was gone, it was a sealed book to him. These phenomena, however, gave the key to the hidden lesion in his brain. On operation, the angular gyrus was exposed, and it was found that a portion of the internal table of the skull had been detached from the outer, and had exercised pressure on the posterior portion of the supra-marginal convolution, while a corner of it had penetrated and lay embedded in the anterior portion of the angular gyrus. The bone was removed from the brain and reimplanted in proper position, after which he became greatly relieved in his mental state, though still excitable. He has made no further allusion to his homicidal tendencies, which previously were obtrusive, and is now at work. Such cases of complete mental blindness are rare, and the definite localisation in this case will assist in indicating in man what the function of the anterior portion of the angular gyrus and posterior portion of the supra-marginal convolution subserve.

Other instances have been related above. One where a combination of symptoms pointed to a lesion in the frontal lobe, and acting upon which a tumour was found pressing upon that area of the brain, from which it was successfully removed; in the other a lesion was definitely recognised from the localising symptoms as seated in the immediate vicinity of Broca's lobe. But even in such areas as the temporo-sphenoidal lobe, where destructive lesions may exist without localising symptoms, one may occasionally, by a process of exclusion, definitely localise the lesion as seated in that part.

12. *Lesion definitely localised as existing in the temporo-sphenoidal lobe.* (See Fig. 12.)—A patient exhibiting

FIG. 12.



symptoms of cerebral abscess had, on the left side, ptosis, stabile mydriasis, paresis of all the ocular muscles with the exception of the external rectus, without external squint. On the right side, paralysis of the facial muscles, which retained power of emotional expression to a slight degree and power to close the right eyelid by an effort of will, though it remained partially open during sleep. He had, also, paresis of the right arm, which, during the few hours he was under observation before operation, had amounted to distinct paralysis. The leg remained normal. There was no diminution of cutaneous sensibility. 1. From these symptoms, it was concluded that a single lesion must be large which could affect at once the third nerve in its course and the lower half of the ascending convolutions. 2. It was clear that it was not a destructive lesion of large size in the motor area, or the crural centre would probably have been involved, thus causing absolute hemiplegia. The same observation applies with greater force to the crus cerebri, which must be excluded, as the effects of pressure would probably have led to more extensive involvement, and, had the pressure even indirectly affected this area, it would have implicated the parts in the reverse order —the leg first, the face last. The tentorium cerebelli would prevent pressure downwards on the pons. 3. The internal capsule could not be the seat of a large lesion, otherwise hemiplegia with destruction of "Charcot's crossway" would have resulted. 4. Though the whole trunk of the third nerve was involved, paresis was alone produced, probably resulting from a degree of pressure. 5. The lesion was gradually implicating the motor area, from below upwards, and was probably occasioned by pressure and its consequences. The only place where a lesion could be situated producing all these phenomena, just to that precise degree, was the temporo-sphenoidal lobe. It was cut down upon, and in the medullary substance of the temporo-sphenoidal lobe an abscess containing three ounces of pus was found, which was evacuated, when the whole of the above symptoms vanished. Three weeks afterwards the wound was looked at for the first time, and found healed.

Can the motor area be removed in large pieces with immunity from serious consequences?—If this region be of such psychical importance to movement and destructive cortical lesions in it are followed by secondary degeneration of the motor tracts, then excision of these areas will necessarily induce permanent paralysis, late rigidity, and ultimate structural contracture. The removal of large wedges from the brain, especially in the motor centre, will induce serious effects upon the brain as a whole, causing during cicatrisation a dragging and displacement of the neighbouring parts, with final anchoring of the cerebrum to the cicatrix. In an acute ulcerative process rapidly advancing, such as an abscess, none can hesitate to evacuate the pus; it is not the living brain substance which is removed, but the peccant matter alone. Epilepsy presents quite another aspect. In the presence of a stationary cicatrix, or of a slow-growing neoplasm in the motor area occasionally producing fits, few would attempt the removal of such a large wedge of the motor region as to induce permanent hemiplegia. Even when the fits are much more numerous and aggravated, it is serious to contemplate the production of hemiplegia while attempting the cure of the fits. No doubt these epilepsies when long continued, especially in early life, are apt to lead to great and extensive instability of the motor cortex, so as to warp the whole cerebral function, and ultimately involve life itself. Still, how much better is the cure by the removal of a large wedge involving the greater part of the motor area? How many people would submit to have the lower and upper limb of the same side of the body amputated by disarticulation at their proximal joints? For this is what the hemiplegia amounts to in the process of cure of their fits. Numerous epileptics have been asked the question by me, but none have expressed their willingness to undergo such a cure. Even had they done so, the circumstances would require to be exceptional to induce one to hazard the life of the patient for so poor a result. It is true that corresponding wedges have been removed from the brains of monkeys, and these animals have survived for months thereafter. In man, also, they have been removed by others; in one instance, reported to me, the patient remained completely hemiplegic until his death, some months after. Nor is the removal of very large tumours, and large wedges of brain, free from immediate peril to life. In several instances, operated on elsewhere, death has ensued; one while the tumour was being removed from the brain, and one immediately after the completion of the operation.

In cerebral surgery, not only does one require to localise the lesion, and to select suitable cases, but also, after exposing the brain and its lesion, to judge when to advance and when to hold the hand. In a case rightly localised from the motor symptoms, a tumour was exposed in the arm and leg centres, on the left side of the brain, but its dimensions were such as to cause me, after carefully contemplating them, to refrain from removing it, as it would have led to a hemiplegia of a much more pronounced character than what was present. Instead, the vessels which supplied it with nutriment, and which ran into its substance from the surface, were all ligatured, in the hope that this would effect a restraining influence on its growth. The patient recovered, and is considerably improved; although the fits are not quite cured, they are not so severe as formerly and are somewhat altered in character.

Anchoring of the brain and some of its consequences.—When injury has been inflicted on the surface of the cerebrum, followed by a plastic effusion and cicatricial formation, the superficial substance is apt to become soldered to the membranes, when these remain intact, which may in turn be soldered to the skull; or, in the event of their detachment, the brain may become directly adherent to the bone by means

of cicatricial adhesion. Thus the surface of the brain becomes anchored or soldered to its rigid walls. It has no longer the free play within its water bed to expand and contract according to the varying states of the circulation; each variation producing a dragging of the brain at this spot, and through it the whole hemisphere at least is affected. Any sudden physical effort pulls on the brain producing a slight shock, a momentary disturbance, just as if the cerebrum had received a blow; vertigo results. People affected in this way cannot rise up quickly or perform any sudden movement of the body or head without experiencing a sensation of giddiness, which sometimes causes them to drop. Consequently they are often incapacitated from pursuing their usual vocations. Following upon this, the grey matter of the cortex immediately surrounding the cicatrix, by the incessant movement, is apt to become unstable and to produce fits. Some cases of traumatic epilepsy are thus caused. Further, if the cortical irritation be continued, encephalitis is occasionally produced, often appearing in a chronic form, and long remaining so, though susceptible of being lit up into an acute affection. If the temperature remains high, active interference is apt to induce an extension of the encephalitis. Operation in such cases should be, when possible, postponed. The disregard of this advice has to my knowledge in one instance hastened the fatal issue, encephalitis becoming rapidly general.

False hernia cerebri.—It is true that round many neoplasms there is a zone of encephalitis, and should this be extensive and of the nature of red softening, false hernia cerebri is prone to form. It was supposed that false hernia cerebri was entirely due to decomposition, many recent writers averring that it cannot occur unless when operations are conducted non-antiseptically, basing their belief on experimental investigations conducted on brains in a physiological state. Had they concluded that the formation of false hernia cerebri after operation was principally caused by decomposition, and always so when it occurred after operation on a physiological cerebrum, they would have been right. The consistence of false hernia cerebri is identical with red softening of the brain, occurring in idiopathic affections in which there had been no operation. In one instance, in which trephining was performed for the relief of pressure causing total hemiplegia, and where the symptoms either indicated acute encephalitis or abscess, or both, the moment the dura mater was opened a large mass of red encephalitis protruded through the membranes, forming a false hernia cerebri on the surface of the scalp. This encephalitis was not occasioned by septic matter introduced through a wound, as it occurred at the moment the wound was made. Round neoplasms red softening sometimes exists, and interference might possibly occasion an extension of the affection, though were the operation conducted with strict antiseptic precautions the possibility of its formation would be reduced to a minimum. With this exception there has been no false hernia cerebri after any of my operations.

Reimplantation of bone, to fill the hiatus in the skull left by injury or made by operation.—Osseous defects in the cranial wall had hitherto remained permanent, the surgeon making no effort to fill the gap. The brain in the majority of cases has thus been exposed, the thin membrane forming an insufficient covering, the patient being doomed for the remainder of his life to wear some kind of plate as a protection from injury. Since 1873 the portions removed by me from the skull have been carefully preserved, rendered aseptic, divided into minute fragments and reimplanted. Whenever there has been immunity from suppuration these have grown and the continuity of the osseous wall has been preserved throughout. In a case of injury nearly one-half of the left anterior portion of the skull was broken into fragments, which lay in a confused mass, mixed with brain substance, shreds of membrane, hairs, débris of lime and blood. The portions of bone were all rendered aseptic, divided into fragments, and replaced, quite a mosaic work being thereby formed. On the tenth day, a portion of the damaged scalp having sloughed, exposed four of the reimplanted pieces, two of which, lying side by side, presented a striking contrast; one being suffused with the pinkish blush of life, the other with the pallor of death. With the exception of two fragments, which shed, all the others remained, grew, and now form a firm osseous wall, affording complete protection. This case, operated on four years ago, will be shown at the demonstration in the Royal Infirmary, along with many others, where lesser defects have been filled. At the same time a boy whose humerus has been restored by bone-grafting will be presented. He was operated on ten years ago, and the bone has grown in length and thickness since.

The note elicited on percussion of the skull an aid to diagnosis of the consistence of intra-cranial contents.—When the skull is intact and the ventricles distended with fluid, such as may arise in consequence of tumour in the cerebellum, exercising pressure on the fourth ventricle, the percussion note elicited affords indications of the altered consistence of the intra-cranial contents. In some instances this note has been found prior to the exhibition of other symptoms, indicative of the presence of tumour in the middle lobe of the cerebellum; it, however, became distinct at the later stage. Post-mortems have fully borne out the diagnosis. The percussion note, when properly fenced, is therefore an aid to the altered consistence of the intra-cranial contents. It is clear that it will be of most value in early life in the diagnosis of tumours of the cerebellum.

Statistical résumé.—Of twenty-one cerebral cases (exclusive of fractures of the skull with brain lesions, the immediate effect of injury) in which operations have been performed by me, there have been three deaths and eighteen recoveries. Of those who died all were *in extremis* when operated on. Two were for abscess of the brain, in one of which the pus had already burst into the lateral ventricles; in the other, suppurative thrombosis of the lateral sinus had previously led to pyæmia and to septic pneumonia. The third case was one in which there existed, besides a large subdural cyst over one hemisphere, extensive softening at the seat of cerebral contusion on the opposite hemisphere, accompanied by œdema of the brain. Of the eighteen who recovered, sixteen are still alive in good health, and most are at work; leaving two who subsequently died, one eight years after from Bright's disease (she in the interval being quite well and able to work), the other forty-seven days after from acute tubercular enteritis.

Operations for the relief of paraplegia caused by pressure on the spinal cord: six cases in which the posterior arches of the vertebræ have been removed.—Turning to another portion of the nervous system, to which only brief allusion can be made, it is found that certain sensory and motor phenomena due to lesions within the spinal canal are amenable to operations, which are attended by a measure of success sufficient to offer a prospect of relief to a distressing and hitherto regarded as a hopeless class of sufferers. The spinal membranes and the cord itself can be exposed, and neoplasms and encroachments upon the lumen of the canal may be removed therefrom without unduly hazarding life. Such interference is unsparingly condemned by writers on the subject, their remarks, however, being applied to injuries, as no such operations have been hitherto contemplated in idiopathic cases. They contend that they are, first, full of danger, being difficult, prolonged, and attended by profuse hæmorrhage; secondly, that the operation could hardly benefit the patient; and thirdly, that no one had yet been able to present a successful case. Each of those points has now lost its validity. The first operations of this kind were undertaken by me for the relief of paraplegia due to angular curvature of the spine. In such cases pressure may be exerted on the cord either by connective tissue neoplasms, or by direct displacement of the bodies of the vertebræ, both lessening the lumen of the canal. By lifting the laminæ from the affected part, the tumour could be removed, and relief at the same time given to the compressed cord were the osseous walls in front found to encroach upon the calibre of the canal. This was successfully carried out by me first in 1883. By the making of an incision on to the tips of the spinous processes and severing the tendinous connexions, and then shelling the soft parts from the bone with periosteal elevators, the hæmorrhage was so trifling as to be, for the most part, arrested by sponge pressure, and, with suitable instruments, the operation, though demanding care, was easy to perform.

Case of paraplegia with incontinence of urine and fæces due to connective tissue tumour at seat of angular curvature of spine; completely cured by removal of tumour and laminæ of vertebræ.—In 1882, a boy aged nine years came under observation, suffering from complete sensory and motor paraplegia, with incontinence of urine and fæces, which had existed for two years previously, but had been absolute during the last eighteen months. For three years he had had angula

curvature of the spine, most marked between the fifth and seventh dorsal vertebræ, for which he had been treated by extension and plaster jackets. When seen by me the curvature had become fixed by ankylosis of the bodies of the vertebræ. Treatment by extension and plaster jackets was, however, tried again, under direct supervision, in the hope of amelioration. It proved futile. The limbs were livid and cold, affected with marked spastic rigidity, and with wasting of the muscles. The symptoms exhibited pointed to irritation of and pressure on the spinal cord, at about the level of the sixth dorsal vertebra. Either of two conditions could have produced the pressure symptoms; the existence of a connective tissue tumour, as Charcot points out, occurs in such cases inside of the canal, or by direct encroachment on the canal by displacement of the bodies of the vertebræ. In the former case, the tumour could be removed on exposing the theca, by elevating the laminæ of the affected vertebræ; in the latter, the same procedure would permit the cord to expand backwards, thus receding from the point of pressure. The paralysis having existed slightly for two years, and markedly for eighteen months, and showing no signs of amelioration under ordinary treatment, this operation was deemed expedient. Dr. Alex. Robertson saw this case and agreed in the hopelessness of any other procedure than operation. On May 9th, 1883, the laminæ of the fifth, sixth, and seventh dorsal vertebræ were removed. There was no pulsation in the portion of the cord exposed. Between the theca and the bone there was found a fibrous neoplasm of an eighth of an inch in thickness, which was firmly attached to the theca and covered about two-thirds of its circumference. This was carefully dissected off. The cord was then able to expand backwards, and its pulsations, which up to this period were absent, began to show themselves, especially opposite the fifth dorsal. Twenty-four hours after the removal of the pressure the limbs had lost their livid colour, were distinctly warmer, the spastic rigidity had greatly lessened, the sense of tickling the soles had returned, and that of touch had improved. The first return of movement was observed eight days after. Soon he had perfect control over his sphincters. Six months subsequently he was able to go about without support. Five years afterwards he walked three miles to pay me a visit. He attends school regularly, joins in all the games, including football, and he says he feels quite strong.

A second but more aggravated case.—In 1884, another case was seen of a somewhat similar kind, though much more aggravated, the symptoms being so far advanced as to indicate organic changes in the cord itself which rendered operation almost hopeless. It was only on the urgent and touching appeal of the girl herself that the operation was undertaken. A dense connective tissue tumour existed between the bone and the theca, which was so firmly adherent to both that in some places the theca was elevated along with the neoplasm. The portion of the cord thus exposed was shrunken to about half its normal dimensions, and lay like an inanimate rod. After elevation of a sufficient number of laminæ to expose a portion of the cord, which pulsated, the pulsations were communicated to this rod, pushing it from above downwards, but there was no distensile pulsations in the rod like part of the cord. From the whole appearances presented at the operation, it was considered that there was no hope for her recovering from her paralytic state. However, ten hours after the operation the limbs had lost their lividity, felt warmer to the touch, and the patient said she experienced "a sensation as if she were dreaming that her legs were on and hot water was running through them." From the fourth day after the relief of pressure she had continence of urine and fæces, for which alone she declared she would willingly have undergone the operation. Sensation quickly returned to the limbs; motion very slowly. Six months after she could move her limbs freely. Eight months subsequent to the operation she walked a quarter of a mile. She stated she could perform many light duties in the house besides attending to herself. She has since been very well and able to enjoy life.

A third case was also successful, but two others have not been so. One succumbed a week after the operation, the other some months later, to an attack of general tuberculosis. In both of these the temperature was high prior to the operation, and was subject to exacerbations, indicating an activity in the tubercular disease at some part distant from the ankylosed angular curvature. Since this experience no case has been deemed fit for operation in which the temperature did not run an even, regular, and continuously afebrile course.

Abscess in the posterior mediastinum evacuated successfully.—In connexion with these cases, an abscess in the posterior mediastinum, which was exercising pressure on the heart and bronchi and threatened life, was evacuated with complete success.

Compression of the cord from traumatism.—Another class of cases is that of localised compression of the cord arising from traumatism. Traumatic lesions are, as a rule, so gross, and the destruction so complete, that in such operative treatment can be of little service; still there are cases in which traumatism has produced localised pressure, primary or secondary, which can be relieved.

Paraplegia from traumatism cured by elevating connective tissue tumour and depressed arch of the twelfth dorsal vertebræ.—From a coal-pit accident a man, twenty-two years of age, received a severe injury to the spine at the level of the lower dorsal vertebræ, which caused absolute motor paralysis with incontinence. There was marked hyperæsthesia of the affected parts, which increased in severity during the first three weeks, so that he could not bear to have the floor shaken or his limbs touched. Between the third and fifth week a rapid change took place. At the termination of that period the muscles of the lower limbs would not respond to electricity; they had become so shrunken and wasted that the contour of the bones stood prominently out, and, notwithstanding massage of the limbs after the cessation of the pain, the flexor muscles had markedly contracted, causing drooping of the feet and toes and fixation of the joints. Later, the skin over the bony prominences became red, pressure points and bedsores formed, irrespective of the most scrupulous attention; the urine became ammoniacal and his temperature ran high. It was evident that a fatal issue was imminent unless an attempt to relieve the pressure on the spine was at once made. In February, 1885, this was done. The lower dorsal and first lumbar were exposed. The arch of the twelfth dorsal was found fractured and slightly depressed, and between it and the theca there existed a connective tissue tumour, measuring nearly a quarter of an inch in antero-posterior diameter, and extending from the eleventh dorsal to the second lumbar vertebra. Both above and below the twelfth dorsal the tumour gradually shaded off to about one-half of its thickness at that point. It was confined to the posterior aspects of the canal. This tumour was carefully dissected from the theca. The same night there was a decided improvement in the warmth of the lower limbs. He began to move his toes on the third day. A month afterwards the contracted tendons about the ankle and feet were extensively tenotomised to relieve the structural contraction, after which the motor power rapidly increased. He was soon able to walk with support, which a year subsequently he discarded, and now can move about with ease but with paraplegic gait.[2]

Here are, therefore, six cases in which elevation of the posterior laminæ of the vertebræ has been performed; four of these have completely recovered and two have died, one from extension of tubercular disease months after the operation, and after the wound had healed, leaving one in which the operation possibly hastened the death of a patient who was otherwise in such a helpless and hopeless condition. Such operations are now beginning to be practised by others. Mr. Horsley a few months ago published a successful case in which a somewhat similar operation had been performed for the removal of a small tumour of the theca diagnosed by Dr. Gowers.

In conclusion, let us remember that the same phenomena by which we are now able to recognise certain cerebral lesions, and locate them in precise areas, were exhibited by patients who came under the eye of our surgical predecessors, some of whom must have had the album of their memory filled with such impressions, yet they saw not their import. They were so hampered by the inculcated physiological dogma of the time that their true significance never dawned on them. The facts were reflected from their brain, as objects from a mirror, and no more. Gentlemen, there are all around us phenomena, each with its hidden truth obtrusively impressing our senses, and how do *we* fail to read their riddle?

[2] These last two cases were shown at the Pathological and Clinical Society, Glasgow, December 22nd, 1885, and published in the Glasgow Medical Journal, and notes of the same appeared in the British Medical Journal for December, 1885.

A CASE OF INTUSSUSCEPTION OF THE CÆCUM, ASCENDING AND TRANSVERSE COLON, TREATED BY ABDOMINAL SECTION, WITH SUCCESS.

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(*Concluded from p. 201.*)

THE following table includes all the cases of intussusception treated by laparotomy or other abdominal operations which I have been able to collect up to date. They are arranged so as to show the relative merits of the various ways of dealing with the condition by abdominal operations. Although the table cannot pretend to be exhaustive, it is certainly very suggestive, and a larger array of figures would probably strengthen the conclusions deducible from it—i.e., that laparotomy compares very favourably with other methods of treating this very fatal condition.

SUMMARY OF COLLECTED CASES.

I. *Laparotomy; bowel released (34 cases).*

	Recovered.	Died.	Total.
Children	5	18	23
Adults	7	4	11

II. *Laparotomy; intussusception irreducible (29 cases).*

A. ABDOMEN CLOSED.

	Recovered.	Died.	Total.
Children	0	4	4
Adults	0	1	1

B. INTUSSUSCEPTION RESECTED.

	Recovered.	Died.	Total.
Children	0	7	7
Adults	1	6	7

C. ARTIFICIAL ANUS FORMED.

	Recovered.	Died.	Total.
Children	0	4	4
Adults	0	6	6

III. *Artificial Anus without Laparotomy (10 cases).*

	Recovered.	Died.	Total.
Children	0	3	3
Adults	0	7	7

ABDOMINAL OPERATIONS FOR INTUSSUSCEPTION (73 CASES).

Laparotomy for Intussusception—Children. (*Successful.*)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Result.
1	Hutchinson	1871	F., 2 years	1 month	Ileo-cæcal	Cured
2	Marsh	Apr. 11, 1875	M., 7 mnths.	13 days	,,	,,
3	Sands	Mch. 11, 1877	F., 6 months	1 day	,,	,,
4	Godlee	Mch. 9, 1881	9 months	4 days	,,	,,
5	Barker	Aug. 25, 1887	M., 4 years	17 hours	,,	,,

Laparotomy for Intussusception—Adults. (*Successful.*)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Result.
1	Nuck*	1692	F., 50 years	?	?	Cured
2	Fuchsius	June 19, 1824	M., 28 years	9 days	?	,,
3	Wilson	1831	M., 20 years	17 days	Iliac	,,
4	Howse	July 1, 1874	F., 33 years	18 days	?	,,
5	Bellamy	1879	M., 34 years	4 days	Lat. sigm. flexure	,,
6	Kleberg	1879	M., 40 years	Some hrs.	Colic	,,
7	Burckhardt	June 21, 1883	M., 24 years	Sev. mths.	,,	,,

* Related by Valsc.

Laparotomy for Intussusception—Children. (*Unsuccessful.*)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Sir S. Wells	Apr. 14, 1863	M., 4 mths.	4 days	Ileo-cæcal	5 hours
2	Weinlechner	Dec. 2, 1871	F., 6 mths.	4 days	,,	6 hours
3	Johnstone	1873	?	?	?	Short time aft.
4	Duncan	1873	? 5 mths.	Some dys.	Ileo-cæcal	Next day
5	Hutchinson	1875	? 6 mths.	3 days	,,	8 hours
6	Page	Mch. 5, 1878	M., 5 years	4 months*	Ileo-colic	10 hours
7	Little	1878	M., 5 years	1 day	Ileo-cæcal	7 hours
8	Marsh	1878	M. ?	6 days	?	10 hours
9	Corley	1879	? 9 months	?	General in colon	4 hours
10	Sands	1878	M., 6½ mths.	2 days	Ileo-cæcal	4 hours
11	Stage	1880	M., 3 mths.	1 day	,,	2½ days
12	Beck	1882	Under 1 year	?	?	36 hours
13	Haward	1882	17 months	5 days	Ileo-cæcal	Few hs.
14	Godlee	1882	8 months	2 days	,,	1½ days
15	Symonds	1884	M., 5 mths.	Acute, 7 days	—	9 hours†
16	Symonds	1884	F., 6 mths.	20 days	—	Sev. hrs.
17	Foxwell	1886	Boy	10 days	—	‡
18	Jacobson	1886	M., 5 mths.	3 weeks	—	§

* Acute for some days. † Exhaustion, shock, &c.
‡ Death during reduction of intussusception, which was gangrenous.
§ Death at close of operation.

Laparotomy for Intussusception—Adults. (*Unsuccessful.*)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death
1	Ohle	Oct. 17, 1810	M., 50 years	13 days	Ileo-cæcal	14 hs.
2	Mikulicz	May 5, 1882	F., 24 years	10 days	Ileo-colic	4 wks.
3	Davies-Colley	—	M., 22 years	5 days*	—	2 days
4	Franks	1884	M., adult	?	—	A few hours

* Acute.

Laparotomy—Intussusception irreducible. (*Unsuccessful.*)

A. CHILDREN. (ABDOMEN CLOSED.)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Result.
1	Gerson	1828	M., 12 weeks	?	Ileo-cæcal	Death
2	Laroyenne	1870 (?)	Child	?	?	Death
3	Godlee	1882	14 weeks	Some days	?	D., 8 hs.
4	Jacobson	Unpub.	11 months	24 hours	?	D., 24 hs.

A. ADULTS. (ABDOMEN CLOSED.)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Decker.	1880	F., 58 years	13 mths.	Ileo-cæcal	5 weeks.

B. CHILDREN. (INTUSSUSCEPTION RESECTED.)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Howse	1876	? 5 months	1 month	Ileo-cæcal	A few hours
2	Morris	1877	M., 12 years	3 days	Iliac	1 day
3	Weinlechner	1880	M., 5 years	2 days	Colic	Sh. aft. oper.
4	Braun	1882	M., 3 mths.	5 days	Ileo-colic	1 hour
5	Polland	1882	F., 3 years	7 days	Ileo-colic	3 hours
6	Jaeger	1885	F., 12 years	2 days	Iliac	5 days
7	Knaggs	1886	M., 5½ years	4 days*	Ileo-cæcal	1½ hours

* Acute.

B. ADULTS. (INTUSSUSCEPTION RESECTED.)

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Küster	1879	M., 42 years	6 days	Iliac	A few hours
2	Fischer	1881	F., 27 years	?	Ileo-cæcal	‡
3	Czerny	1883	F., 36 years	8 days*	Ileo-cæcal	A few hours
4	Obalinski	1883	M., 63 years	5 days	Iliac	The next day
5	Czerny	1884	M., 45 years	Chronic	Ileo-cæcal	2 days
6	Czerny	1884	M. 52 years	Chronic†	Ileo-cæcal	Recovered
7	Robson	1885	F., 33 years	7 days	Jejunal	§

* Chronic. † Then acute.
‡ Death at close of operation. § Died in 2¾ hours of shock.

C. CHILDREN. (ARTIFICIAL ANUS FORMED.)

No.	Operator	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Waldenström	1873	M., 20 mths.	Sev. wks.	Ileo-cæcal	A few hs.
2	Royes Bell	1875	F., 16 mths.	6 days	Colic	7 hours
3	Brown	1882	M., 14 years	1 day	?	6 hours
4	M. Schmidt	1887	F., 10 years	7 days	Iliac	Same night

C. ADULTS.

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Caines	1806 (?)	M., 23 years	5 days	Ileo-cæcal	17 hours
2	Hulke	1879	F., 16 years	1 year*	Ileo-colic	36 hours
3	Marchand	1882	F., 43 years	13 months	Colic	3rd day
4	Saltzmann	1882	F., 29 years	1 year*	Ileo-colic	14 hours
5	v. Wahl	1883	F., 44 years	10 days	Ileo-cæcal	½ hour
6	v. Winniwarter	1885 (?)	M., 60 years	5 days	Colic	36 hours

* Chronic.

III. *Artificial Anus without Laparotomy.*

CHILDREN.

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Busch	1869	M., 7 mths.	14 days*	?	8 days
2	Hirschsprung	1871	? 22 mths.	?	Colic	40 hours
3	Stage	1876	F., 6 mths.	1½ days	Ileo-colic	2 days

* Four days acute.

ADULTS.

No.	Operator.	Date of operation.	Sex and age.	Duration of symptoms.	Form of intussusception.	Death.
1	Hauff	1841	M., 36 years	*	Ileo-cæcal	9 days
2	Pirogoff	1852	M., 16 years	Chronic	?	Shortly aft.
3	Robert	1856	F., 23 years	18 days	Asc. colon	2 days
4	Chassignac	1859	M., 39 years	3 months	Ileo-colic	5 hours
5	v. Thaden	1862	M., 23 years	?	Ileo-colic	10 days
6	Müller	1872	M., 33 years	Chronic	Ileo-cæcal	10 days
7	Heath	1881	M., 56 years	1 year	Ileo-cæcal	Shortly aft.

* Six months chronic, 3 days acute.

EPILEPSY AND MIGRAINE.

BY SAMUEL WILKS, M.D., F.R.S.

JUDGING from what I hear and read, antipyrin has been as great a failure in the relief of epilepsy as it has been a success in migraine. I have now used this drug for nearly two years, and having seen its remarkable power in arresting attacks of headache, I can fully corroborate the high opinion held by the profession generally as to its merits. It has, however, by no means superseded other well-known remedies in their more enduring effect in the cure of this disease. As regards the power of antipyrin in epilepsy the result is very different, as not unexpected by me, who never have been able to discern the analogy between the two diseases, and which suggested the trial of the same remedy for both. This is no new opinion of mine, but if not hitherto expressed it has been out of deference to the great names of those who, in their writings, have associated the two diseases together. I have never myself seen the resemblance, but, on the other hand, have observed many and considerable dissimilarities. The only plausible reason for linking them together is their paroxysmal character; that is, persons who may be well to-day may have a fit or attack of migraine to-morrow, but the very difference in the nature of the paroxysm seems to me sufficient to dissociate them. In the one case, the patient may be as well as ever one moment, and the next moment may have fallen unconsciously down without there having been any warning of the occurrence; whereas, in the other case, the attack is approaching for hours, and very often some well-known cause has developed it. Nay, further, a migrainous person may, in the performance of some duty, predict an attack with certainty; he may, indeed, induce it. Then as regards the symptoms, there is nothing in common between them. The attacks are not only altogether unlike, but the epileptic, as a rule, is not a sufferer from headache, nor does the migraine patient become epileptic. Some years ago I took the trouble to ask the question of epileptics, and the almost invariable answer was that they did not suffer from headache. This is a very important and practical point, for if headache was present, it proved the case to be one not of simple epilepsy, but of fits due to injury, syphilis, or other cerebral disease, and which was often cured by the iodides and mercury when the bromides had failed. Then, on the other hand, I have no history of a migrainous patient becoming an epileptic. The former, as a rule, loses his trouble as years wear on, whilst the latter often becomes more confirmed in his complaint, or his brain altogether gives way. Amongst a large number of cases, I only remember one where there was a suspicion of the two maladies existing together. In answer to what I have stated, it would be maintained by those who regard the two affections as allied, that they admit the difference between the phenomena of migraine and epilepsy, but, nevertheless, they have a common pathology. This remarkable theory seems scarcely warranted by our ordinary mode of reasoning about cause and effect. The only plausible reason for such an opinion ought to be founded on the observation that the migrainous patient often becomes epileptic, or the reverse; but, as I have already stated, this is not true. It might also be maintained that the two affections are seen occurring in members of the same family. Now this, from a very long experience, I also deny. I know many families subject to migraine, but in none is there a single member epileptic. And more than this; the opposite fact is true, that the two diseases attach themselves to a totally different class of persons. The migrainous patient frequently belongs to the most cultivated and intellectual class of society, and is of the temperament called neurasthenic, whilst the epileptic, in my experience, belongs to a lower grade, and is generally the stupid one of the family; if, indeed, his fits are not associated with other grave defects of his nervous system. There is no lunatic or idiot asylum without its numerous epileptics, whereas some of the best descriptions of migraine are to be found in the Philosophical Transactions, given by the authors themselves. There may be, before an attack either of epilepsy or migraine, some altered mental condition; but, if so, in the former it is of the nature, first, of mania and then of stupor, whilst in the latter the mind is often more acute both preceding and during the attack. I will not go so far as to absolutely endorse an opinion expressed

by more than one observant medical man, that migraine is never met with amongst the lower orders, although it is difficult to conceive how such services as those of policemen or engine-drivers could go on were it at all common amongst the working community. A man or woman in a higher grade of society can afford to lose a day now and then without interfering seriously with their vocations. Moreover, there seems no good reason why the two diseases should be thought to have the same seat; in epilepsy it is proved that the brain is the seat of the explosion which causes the phenomena, whilst this is by no means certain in the case of migrane. Here the patient is bodily ill, his pupils are contracted, and thus unlike the dilatation of epilepsy; his stomach and bowels are deranged; his heart's action is depressed; he is cold and shivering, and apparently his whole ganglionic system is at fault. In a word, I see no resemblance between an attack of migraine and epilepsy. I observe they never pass the one into the other, they do not occur in the same families or in the same class of persons, and the remedies which relieve the two diseases are different.

Grosvenor-street, W.

SEA VOYAGES FOR HEALTH.

BY A. CROSBEE DIXEY, M.R.C.P.ED.

SO many of our profession are daily ordering patients away for long sea voyages in search of health, with, as a rule, little or no practical experience themselves in the matter, more especially as regards the climatic changes the patient will have to encounter, that I venture to think the few following notes taken by myself in a voyage round the world may be of interest to the profession generally. We left Plymouth on Nov. 19th, 1887, by the New Zealand Shipping Co.'s steamer *Tongariro*, bound for New Zealand direct, *viâ* Madeira, Cape Town, and Tasmania. The temperatures on the voyage there read as follows:—

On the bridge of the "Tongariro."

November	19th	...	...	43°	December	11th	...	...	65°
,,	20th	...	...	52	,,	12th	...	...	60
,,	21st	...	...	55	,,	13th	...	...	60
,,	22nd	...	...	54	,,	14th	...	...	48
,,	23rd	...	...	62	,,	15th	...	...	44
,,	24th*	...	...	66	,,	16th	...	...	44
,,	25th	...	...	72	,,	17th	...	...	44
,,	26th	...	...	77	,,	18th	...	...	44
,,	27th	...	...	80	,,	19th	...	...	44
,,	28th	...	...	86	,,	20th	...	...	44
,,	29th	...	...	86	,,	21st	...	...	46
,,	30th	...	...	80	,,	22nd	...	...	45
December	1st	...	...	80	,,	23rd	...	...	48
,,	2nd	...	...	77	,,	24th	...	...	46
,,	3rd	...	...	74	,,	25th	...	...	54
,,	4th	...	...	74	,,	26th	...	...	58
,,	5th	...	...	76	,,	27th‡	...	...	66
,,	6th	...	...	68	,,	28th	...	...	65
,,	7th	...	...	68	,,	29th	...	...	64
,,	8th	...	...	69	,,	30th	...	...	66
,,	9th†	...	...	64	,,	31st§	...	...	67
,,	10th	...	...	66					

* Arrived at Madeira. † Arrived at Cape Town.
‡ Arrived at Tasmania. § Arrived at New Zealand.

For these temperatures I am indebted to the courtesy of Mr. Findlay, chief officer of the *Tongariro*.

Regarding the above temperatures generally, I must mention that they were taken in the deck-house on the bridge of the steamer at 12 o'clock noon in the shade, and that 8° of temperature must be added to each to represent the corresponding temperature in the saloons and cabins, which are of course warmer. Individually, we noticed the great rise of temperature in the first ten days from leaving Plymouth,—viz., from 43° on deck or 51° in saloon, to 86° on deck or 94° in saloon, a difference of 43°. This occurs in the tropics at latitude north, 8·41°, and continues until the Line is crossed; it is the most trying time for invalids. Another sixteen days bring the temperature down from 86° on deck or 94° in saloon, to 44° on deck or 52° in saloon, another difference of 42°. This occurs about latitude south, 47·58°, and is found to be less trying than the previous heat. From this until Tasmania is reached, the temperature gradually rises to 64°, continuing about the same to New Zealand. Returning from New Zealand on April 5th, 1888, *viâ* Cape Horn, Rio de Janeiro, and Teneriffe, the temperatures read as follows:—

On board the "Rimutaka."

April	5th	...	...	...	56°	April	27th	...	...	...	74°
,,	6th	...	...	...	55	,,	28th	...	...	...	76
,,	7th	...	...	...	52	,,	29th	...	...	...	78
,,	8th	...	...	...	53	,,	30th*	...	...	...	78
,,	9th	...	...	...	53	May	1st	...	...	...	88
,,	10th	...	...	...	55	,,	2nd	...	...	...	82
,,	11th	...	...	...	51	,,	3rd	...	...	...	80
,,	12th	...	...	...	52	,,	4th	...	...	...	84
,,	13th	...	...	...	48	,,	5th	...	...	...	89
,,	14th	...	...	...	47	,,	6th	...	...	...	89
,,	15th	...	...	...	47	,,	7th	...	...	...	82
,,	16th	...	...	...	47	,,	8th	...	...	...	82
,,	17th	...	...	...	46	,,	9th	...	...	...	78
,,	18th	...	...	...	46	,,	10th	...	...	...	78
,,	19th	...	...	...	44	,,	11th	...	...	...	70
,,	20th	...	...	...	44	,,	12th†	...	...	...	70
,,	21st	...	...	...	44	,,	13th	...	...	...	68
,,	22nd	...	...	...	48	,,	14th	...	...	...	65
,,	23rd	...	...	...	48	,,	15th	...	...	...	61
,,	24th	...	...	...	50	,,	16th	...	...	...	60
,,	25th	...	...	...	54	,,	17th‡	...	...	...	61
,,	26th	...	...	...	72						

* Arrived at Rio de Janeiro. † Arrived at Teneriffe.
‡ Arrived at Plymouth.

For these temperatures I am indebted to the courtesy o Mr. Macrae, fourth officer of the *Rimutaka*.

The same remark applies to these temperatures as the former—viz., that 8° must be added to each to represent correct temperature in saloons and cabin. Individually, the rise from 44° on April 21st to 88° on May 1st, a difference of 44°, is the most trying part, and lasts, as in the outward voyage, until the Line is crossed.

The above temperatures may be taken as a fair average of what is usually met with in a voyage taken in the autumn to escape the English winter. Whether the patient is in a state to withstand these sudden changes it is for the physician to determine, but in any case it is well that he should know when giving an opinion that they have to be encountered. The important question as to whether a steamer or sailing ship is most beneficial must be decided according to the case; of course no fixed rule can be laid down. On a steamer one has the advantages of a shorter time in the tropics and an unlimited supply of ice whilst there, of a better table, and of warm sea water baths, so essential in rheumatic and gouty cases; on the other hand, there are the noises of the screw and the constant rush inseparable from a steamer being driven along at the rate of thirteen or fourteen knots an hour. For the majority of cases a steamer is more enjoyable, and the monotony is less, but for all cases of insomnia, mental cases, or where quietude is essential, a sailing ship is decidedly preferable.

I saw a case of overstudy develop into one of acute mania; this was a case that certainly should not have been sent out in a steamer. In the matter of clothing, invalids should be careful to have light clothing for the tropical weather, this is most essential; and also not to forget a warmer change for the cold which follows. Another important point is choosing one's cabin. Never take one with more than *two* berths; of these choose the *upper*, it is lighter and more airy; and if possible secure a deck cabin, bearing in mind that it is the extreme heat more than the cold that is most trying to invalids. The port or left hand side of the ship is the best going out; the right or starboard coming home. The extreme cold usually spoken of in coming round Cape Horn is, I think, greatly overrated. In this voyage the thermometer never fell below 44° on deck or 52° in the saloon; and the heat in the tropics, though trying, is far less than would be encountered in returning by the Suez Canal and Red Sea. It is frequently found that the stay of three months in the Colonies seems to do the patient more good than the sea voyage. In any case reaching there in the midst of their glorious summer, with new surroundings, magnificent scenery, and a perfect climate, must naturally have a beneficial effect on all but hopeless cases; and the patient returns with renewed health and vigour, with many pleasant reminiscences of places and people, and with the satisfaction of having escaped an English winter.

Southsea

CASE OF

RUPTURE OF THE UTERUS AND VAGINA WITH ESCAPE OF THE FŒTUS INTO THE ABDOMINAL CAVITY; ABDOMINAL SECTION.

BY SURGEON-MAJOR J. G. PILCHER, F.R.C.S.,
CIVIL SURGEON, DARJEELING.

NASIBON, aged twenty-five, was admitted into the Darjeeling Dispensary during the afternoon of May 1st, having been two days in labour. The native dhoi—midwife—who attended the case stated that she had made out a face presentation, which had suddenly disappeared on the morning of the day of admission. The patient stated that she had been delivered of four children previously, all of whom had been born dead. She also stated, but with some hesitation, that they were all born at full term and that she was now at full term; that her pains ceased in the morning.

On admission, the woman was in a state of extreme exhaustion, the pulse was small and thready, she complained of severe pain in the abdomen, and had been vomiting frequently. On palpation over the abdomen all parts of the child could be clearly made out. The abdominal walls were very thin, and the child was evidently outside the uterus in the abdominal cavity. On vaginal examination the promontory of the sacrum was felt protruding sharply forwards into the pelvis. Anteriorly there were two angular projections backwards, each situated about two inches outside the symphysis; these were evidently the bodies of the pubes pressed inwards by the weight of the body on the femora during a period of softened bone. To this cause must also have been due the prominence of the sacrum. The antero-posterior diameter of the pelvis was less than two inches. The os uteri could not be felt anywhere, and the vagina was occupied by a fringe-like body, which felt like omentum. With slight traction this was brought outside the vulva, and was seen to be omentum.

A rupture of the parturient canal with escape of the fœtus into the abdominal cavity was diagnosed. Surgeon-Major Pilcher having been sent for, arrived about 7 P.M., confirmed the diagnosis which had been made, and determined to perform abdominal section.

Operation.—About 7.30 P.M. the patient was placed under chloroform, and an incision made in the median line of the abdomen from two inches above the umbilicus to just above the symphysis pubis. On opening the peritoneum a large quantity of bloody fluid and small clots escaped, and the uterus was at once seen to be firmly contracted. The placenta then edged forwards and was removed with scarcely any traction, and the body of the fœtus lifted out of the abdomen. The uterus was next examined. Its anterior surface was intact, but on lifting it out of the incision it was discovered that the posterior half of the circumference of the vagina was torn away from the cervix. In addition to this lesion there was a rent about three inches long, separating the posterior portion of the cervix from the body of the uterus. The rent in the uterus was then stitched with interrupted catgut sutures, the cavity of the abdomen was sponged out, and as much clot and liquid as could be found were carefully removed. Two large drainage tubes were inserted per vaginam, one into the uterus and the other through the vaginal rent, into the abdominal cavity. The abdominal incision was closed with seven silk sutures, which included the whole thickness of the abdominal wall. The operation was performed under antiseptic precautions, all sponges and instruments having been well soaked in perchloride solution (1 in 5000) and carbolic acid respectively. The wound was dressed with a thick pad of lint soaked in compound tincture of benzoin. The patient rallied well after the operation and was put to bed, some stimulants having been administered, and hot bottles applied to the feet. Half a grain of morphia was given by the mouth. The patient slept at intervals during the night. Her temperature at 7 A.M. was 102°, and her pulse very weak. At 8.30 A.M. gasping respiration was noticed, and twenty minims of sulphuric ether were injected hypodermically. At 9.45 A.M. the pulse was imperceptible, and the woman died from exhaustion at 10.45 A.M.

Remarks.—This case is of interest chiefly on account of the rarity of the condition. The state of the pelvis was identical with that described by Dr. Playfair as due to osteomalacia. The astonishing statement of the patient that she had been delivered of four children at full time would be inexplicable to anyone not knowing the inaccuracy of the native character. It is much to be regretted that the patient herself was not in a condition to afford fuller information as to her previous history, and that her friends were too ignorant. The dhoi's statement that she made out a face presentation was doubtless perfectly correct. The outlet of the pelvis being impassable, the occiput was driven through the posterior wall of the vagina. The tear in the cervix must have occurred at the moment when the head passed from the uterus into the vagina. Had the patient been seen in the early morning, when the injury first occurred, she would have had a very much better chance of recovery. As it was, when brought to hospital she was in such a state of exhaustion that the operation was only performed as a last resource, and her recovery was hardly hoped for.

The above account has been kindly written by Dr. Peck of the Indian Medical Service, who assisted at the operation, and without whose help it would have been most difficult to complete the operation. The condition of the woman after the operation was not worse than before it, and had the case come under observation earlier, life would most likely have been saved.

Darjeeling, India.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. THOMAS'S HOSPITAL.

A CASE OF COMPOUND FRACTURE OF THE CRANIUM, WITH DEPRESSION AND ESCAPE OF CEREBRAL MATTER; OPERATION; RECOVERY; REMARKS.

(Under the care of Mr. WILLIAM ANDERSON.)

THE special points of interest in these cases are fully indicated by Mr. Anderson in the remarks appended to each.

The patient, Elizabeth M——, a child aged eighteen months, was admitted on July 2nd, 1887. It was stated that she had slipped from the arms of an elder sister, and fell over the balustrade down the well of the staircase striking her head against the ground about twenty feet below. She was picked up in an insensible condition, and brought to the hospital.

On admission she was collapsed and quite unconscious. There was a small scalp wound over the right frontal eminence, and from the contused aperture was escaping a considerable quantity of blood and brain matter intermingled with cerebro-spinal fluid. The temperature was 96°. A short time afterwards chloroform was administered; the external wound, which was in a very dirty condition, was cleansed. Under antiseptic precautions, the aperture was enlarged to the extent of about two inches and a half and the injured surface of bone exposed. A wide fissure was found over the right side of the frontal bone, extending from near the middle line and about one inch and a half above the orbit downwards and outwards into the right temporal fossa, where it was lost; the bone forming the upper edge of the fissure was depressed and separated from the lower edge sufficiently to allow the insertion of the tip of the little finger into the cranial cavity; the gap was occupied by broken-down brain matter, and there was a good deal of oozing of blood from the depth of the wound. The wound was flooded with a weak carbolic solution, and Mr. Anderson removed—partly with a trephine, partly with parrot-beak forceps—a large portion of the depressed bone, leaving an irregularly circular gap of about an inch in diameter. A ligature was applied to a small anterior meningeal vessel. A drainage tube was then inserted, the external wound was closed as far as the tube would permit, and antiseptic dressings were applied.

After the operation the patient slept a good deal, but was perfectly conscious on awakening. The subsequent progress was good. The temperature did not rise above 99·8°, and no complication occurred beyond a tendency to hernia cerebri, which, however, subsided at the end of a fortnight. The child took food well and appeared to be remarkably intelligent and lively, and no paralytic symptoms were to be detected. The healing process was somewhat slow, but was completed by Sept. 6th, and the child was discharged with a protective silver plate adapted to the seat of the injury. The area over which the bone was deficient was sharply defined, irregularly circular, and about the size of a half crown, and the pulsations of the brain could be distinctly felt through the thin integuments.

Remarks by Mr. ANDERSON.—The case is a fair illustration both of the value of antiseptic surgery and the amount of damage that the brain is capable of bearing without perceptible impairment of its functions. The wound, extending deeply into the hemisphere, was in a most unfavourable condition; severely contused, and covered with all the impurities of an unswept flooring. Nothing but the most careful cleansing of the parts and the observance of strict antiseptic precautions could have delivered the child from inflammatory complications and all the grave risks contingent upon these. With regard to the cerebral injury, it is of course impossible to say that the laceration and contusion of the right frontal lobe have been absolutely without effect upon the intellectual functions, but no change has been perceptible to the relatives of the child up to the present time. The rather free removal of the depressed bone probably lessened the tendency to hernia cerebri. It is, however, obvious that the elasticity of the imperfectly ossified skull in a child of eighteen months would render it unnecessary to encroach as far upon the cranial walls as might be considered expedient in the case of an older patient.

EPITHELIOMA OF THE SOLE OF THE FOOT, WITH IMPLICATION OF FEMORAL AND ILIAC GLANDS.

From notes by Mr. Seddon, dresser.

M. R——, a widow, aged seventy-three, was admitted into St. Thomas's Hospital on March 28th, 1887. The patient said that she had always been well until about six months previously, when she noticed a warty growth on the sole of the right foot. Two months afterwards a swelling was felt in the right groin, and the health began to fail.

On admission, an irregularly circular growth, of about the size of a halfpenny, was found in the middle of the right sole. It was sharply circumscribed, flat, but slightly elevated above the general surface, and covered with a thin bluish-white epithelium, except over a small excoriation near the outer border. It was moderately hard, but appeared to be of little depth, and could be moved freely over the fascia. There was some pain on pressure, but the suffering was not severe. No sign of inflammation was present in or around the disease. On examination of the groin, a group of enlarged glands was found extending from the lower border of the saphenous opening to Poupart's ligament. No evidence of implication of the intra-pelvic glands could be discovered. Twelve days later the growth, which was diagnosed as epithelioma, was excised by Mr. Anderson. It was confined to the skin, and showed no tendency to infiltrate the deeper parts. A mass of glands was removed from the groin, and the wounds were dressed antiseptically. The tumour and glands were examined by Mr. Shattock and Mr. Ballance. The primary tumour had the ordinary characters of epithelioma, and the glands also showed well-marked epithelial proliferation, but in these, interspersed amid the new growth, were innumerable minute areas of purulent infiltration. This latter observation proved to be of especial interest. The local progress appeared to be favourable until the ninth day after the operation. The wounds looked healthy although rather indolent, and the patient was cheerful and free from pain. On April 18th a sudden change for the worse occurred. The temperature rose to 104·8°, all action ceased in the wound, and extreme prostration set in. There were no rigors. On the following day there was incoherence, the breathing was laboured, the tongue dry, the pulse very rapid and feeble, and the abdomen distended. The temperature at 9 in the morning was 104·8°, but sank at noon to 99·6°, to rise again at night to the former height. On the 20th the temperature fell to 102·8°, but without improvement in the symptoms, and death occurred on the morning of the 21st.

At the necropsy, conducted by Dr. Sharkey, the iliac glands were found enlarged and affected in the same way as those excised from the groin; the dependent portions of the lungs were hyperæmic and œdematous; the heart was small and flabby, with a large amount of superficial fat; and the aorta was atheromatous. The kidneys presented disseminated hæmorrhages of recent occurrence, but no secondary abscesses were discovered in any part of the body.

Remarks by Mr. ANDERSON.—There is little doubt that the death of the patient was caused by a septic infection, starting from the purulent foci in the glands above Poupart's ligament. The operation does not appear to have had any connexion with the catastrophe, since the progress both local and general was all that could be desired until the unexpected rise of temperature on the ninth day, and at no time was there anything in the aspect of the wounds to explain the constitutional manifestations. The clinical features of the case are peculiar. The rather innocent aspect of the superficial growth, with its indisposition to infiltrate adjacent parts or to become inflamed or ulcerated, was not only very unlike that of epithelioma as seen in other parts of the body, but contrasted strongly with the remarkably malignant progress of the disease, as shown by the rapid extension along the lymphatics and the development of multitudinous centres of suppuration in a long and remote chain of glands. The records of epithelial cancer in this situation are very scanty, but so far as they go they are altogether at variance with the experience afforded by the present example.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

A CASE OF IMPERFORATE RECTUM; OPERATION; DEATH; NECROPSY; REMARKS.

(Under the care of Mr. J. LIONEL STRETTON.)

M. W——, a female child, was born on Feb. 4th in the evening. The following day it was noticed that it had not passed anything per anum, and as this condition continued and the child was in great pain, the medical attendant was asked to examine it next day, Feb. 6th. The finger passed easily through the anus into a cul-de-sac, at the upper part of which there was a distinct bulging during the child's efforts to defecate. An attempt was made to puncture this, but as it was high up and much difficulty was experienced, it was abandoned. Mr. Stretton saw the child on the evening of Feb. 6th, and managed to seize the bulging surface above, which was held with artery forceps, and an endeavour made to puncture. After several failures, owing to the slipping of forceps, the bulging portion was brought into view, and proved to be the uterus, the cul-de-sac communicating with the vagina. As there was nothing behind this which could be laid hold of, and as the child was in great pain, continually crying and making efforts at defecation with a distended and tense abdomen, it was decided to open the bowel in the right groin.

Chloroform was administered, and the usual operation performed. The piece of gut opened was the cæcum, as was evident by a view of the appendix. A large quantity of meconium and fæces came away. The wound was dressed with stypium, and the child removed to bed. It seemed greatly relieved and slept soundly.

Feb. 7th.—Child is very comfortable, taking milk, by the bottle, well. No rise of temperature. Quantities of fæces are passed.

11th.—The intestine bulged through the wound a good deal, causing much strain on the sutures; this was reduced, and a pad applied. Child continues well. Motions becoming more solid.

14th.—Child very sick, causing the bowel to protrude again; this was easily returned, but gave trouble, off and on, for the next fortnight, after which it remained in place. The child began to fall away and refuse its bottle; it gradually became weaker, and died on March 18th. Motions were freely passed up to the last.

Necropsy.—Body very small and emaciated. Abdomen distended. Upon opening the abdomen a large piece of distended gut presented itself, which proved to be the large intestine from the cæcum downwards—i.e., below the artificial anus. The gut was firmly adherent to the opening in the right groin. The sigmoid flexure ended in a pouch which was fixed to the upper surface of the uterus. The

distended portion of the bowel contained solid fæces. Nothing else of an abnormal character was discovered.

Remarks.—This case displays an interesting abnormality and emphasises the desirability of such operations. Even those who condemn these operations as scientific experiments could not fail to have been struck with the great relief afforded to the little sufferer. It is yet another instance of serious operation in a very young child (only fifty hours old) with rapid recovery and no constitutional upset as a result. The loading of the lower bowel was accomplished latterly, and was, in all probability, owing to insufficient peristalsis as a result of the general inanition.

NORWOOD COTTAGE HOSPITAL.

MULTILOCULAR OVARIAN TUMOUR; OPERATION; RAPID RECOVERY.

(Under the care of Dr. JOHN H. GALTON.)

A. W——, aged fifty. No family history of tumour. Had one child, twelve years ago. She first noticed a general swelling of abdomen three months ago. Had an attack of peritonitis at that time, for which she was in bed for seven weeks, under the care of Dr. Hatfield, of Forest Hill.

The patient was admitted to hospital on June 29th. She has dark hair and eyebrows, grey eyes, anxious expression. The abdomen measured thirty-eight inches, was dull in the middle and lower regions, resonant in both loins and upper part of hypochondriac and epigastric regions. One inch and a half above and to the left of the umbilicus a band of denser tissue was to be felt passing downwards to the left side of the abdomen. The uterine sound passed a quarter of an inch beyond normal with pain.

On July 1st chloroform was administered by Mr. Sidney Turner, Dr. Miller and Mr. Plimmer assisting, and Drs. Hatfield, Holland, Wright, and Wintle were present; the operation was performed, lasting twenty-five minutes. The incision, three inches long, showed very thin cyst-wall, adherent to the anterior abdominal wall; adhesions strong at the upper part. Sixteen pints of fluid and 1 lb. 7 oz. of solid were removed. The lower part of the tumour was thin, free from secondary cysts, while the multilocular portion was at the upper part in the region in which the line of denser tissue was felt before operating. The abdomen was washed out with water at 110°, and three deep (thick silver) sutures, with four superficial (thin silver) applied. After the operation nothing but ice and opium were given for twelve hours, then milk and barley water with beef jelly every two hours for two days. The urine was drawn off every six hours. After the operation the temperature was 97°, and never rose beyond 98·8°, at 6 P.M. on the day of operation, and never exceeded normal at any subsequent time.

On July 5th the wound was examined and found perfectly crusted. On July 7th the bowels acted with enema. On July 8th all the sutures were removed. On the following day urine passed naturally. On July 12th she was sitting up, and on the 14th was out in the garden.

The points of interest in the case are the top-heavy position of the multilocular portion of the growth and the extremely rapid and uninterrupted recovery of the patient.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Peritonitis.—Pyæmia.—Locomotor Ataxy.—Separation of Coracoid Epiphysis.—Cirrhosis of the Liver.

A MEETING of the Pathological Section of the Academy was held on June 1st.

Dr. M'ARDLE communicated a case of Peritonitis from Perforation, and commented upon the cause of death in such cases.—The PRESIDENT said the paper raised the question as to how far in such cases death was attributable to shock to the nervous system. If that were so to any extent, it might preclude surgical interference with so important a cavity as the abdomen, because the immediate effect of it might be to augment the efficacy of one of the causes of death. If, on the other hand, death exclusively resulted from absorption of materials effused from the peritoneal cavity, or from putrefactive gases, which would interfere with the heart's action, the objection to operative interference would not arise.—Dr. FINNY requested leave to make an observation. He understood Dr. M'Ardle to say that it had been found during the last five or six years that in 70 per cent. of the cases of acute penetrative peritonitis in which operative interference had been resorted to there had been recovery. According to his recollection the facts were quite of an opposite character. In cases of chronic peritonitis, where there was purulent discharge, good results from operative interference might be hoped for; but, according to his recollection, in acute cases attended with perforation of the stomach or intestines, any such proceeding had been followed by death.—Dr. M'ARDLE explained that his statement only had reference to cases of septic peritonitis which were not perforative.

Dr. A. W. BAKER communicated a case of Pyæmia of dental origin.

Dr. FINNY exhibited Sections of the Spinal Cord (made by Dr. Henry T. Bewley), displaying the pathological changes found in locomotor ataxy, with certain peculiarities as to the distribution and extent of the sclerosis. The patient had died in Sir Patrick Dun's Hospital, to which he was admitted as a pay-patient at the age of thirty-eight, in December, 1885, for emphysema and cardiac dropsy, with a history of tabes of some ten years' standing. He had been under Dr. Finny's observation three years previously, and had exhibited at that time the following features of the disease, which were still better marked in 1885. Sensory disturbances: Diminution of tactile sensibility in the legs and arms, but more particularly in the forearms. He was unable to state where his feet were, when in bed, until he struck the foot-board with them, and on one occasion, while pinning on his left cuff, he passed the pin through the flesh of his wrist and was not aware of it until, finding the cuff was fixed, he tore away the flesh by pulling it down. He had some paræsthesia of the fingers, and described a sensation of great heat in the tips of the right hand, and said that their moisture would at times rise as steam from them. Neuralgic pains were occasionally present in both legs and arms, but was not by any means a prominent symptom. Motional disturbances: Unsteadiness in walking and in turning round; difficulty in maintaining the equilibrium while standing with the eyes closed, or on looking up at a height. There was no ataxic gait, the gait being that more of uncertainty and debility. He had great difficulty in walking in the dusk. He experienced great difficulty in buttoning his clothes, more especially behind him. Reflexes: The patellar reflexes were absent, and the Argyle-Robertson phenomenon was sufficiently marked, though the pupils were not markedly contracted. The sexual reflex: At the time of his last illness the sexual appetite was not inordinate, though early emission followed upon excitement; but for many years preceding it—as early as twelve years of age—the sexual desire was greatly increased, and venery was immoderately practised with masturbation. There was no distinct syphilitic history, though he had venereal disease at the age of eighteen; and there were no appearances of scars. The patient's whole history pointed to a life of sensuality and alcoholism. The notable features in his case were—(1) early and immoderate sexual appetite; (2) the slight amount of tabetic gait; (3) the greater implication of the cervical region of the cord. Post-mortem appearances of the cord: Diffuse spinal meningitis, more especially of the posterior aspect of the cord, and sclerosis involving the cervical region in the highest degree, and to a less the dorsal and lumbar regions. The posterior root zones were well defined by the pathological changes, and more or less involved also are the postero-median columns. The disease was mainly limited to the postero-external columns in the lumbar and dorsal regions, but in the cervical the postero-median, as well as the root zones, were involved to a greater or less extent of symmetry. There were no evidences of ascending degeneration, such as is usual in cases where the lumbar bulb is the seat of the disease, and the sclerotic changes were separated from the grey matter of the posterior commissure and basis of posterior cornua by symmetrical well-defined bands of healthy nerve fibres. A similar condition is well depicted by Dr. Gowers in his "Diseases of the Nervous System," vol. i., p. 310. As it is unusual for death to occur so early in a case of tabes, the specimens possess another interest, as they exhibit the disease in a less pronounced form and extent than is commonly met with in more chronic cases.

Dr. BEWLEY exhibited Microscopical Specimens of the Cord in the case brought forward by Dr. Finny, and mentioned that the disease affected the upper cervical portions of the cord more than the lumbar portions. The case was in that respect peculiar. There was another peculiarity which he had not seen in any drawings of cords affected by locomotor ataxy—namely, that in the cervical region the posterior third of the internal part of the postero-internal column was sclerosed, the middle portion was not sclerosed, and the anterior portion was again sclerosed. The posterior third derived its ascending fibres from the lumbar region, in which there was some disease, and those fibres were consequently degenerated. The dorsal region was not much diseased. The middle third containing fibres from that portion of the cord was fairly healthy. The anterior third containing ascending fibres from the diseased cervical region was much sclerosed.

Dr. STORY read a paper by Dr. E. H. Bennett, who was absent, on a case of Separation of the Coracoid Epiphysis of the Scapula.

Dr. BEWLEY submitted a case of Cirrhosis of the Liver and Thrombosis of the Portal Vein. The specimens were taken from a man aged sixty, who had enjoyed fairly good health, with the exception of occasional attacks of bronchitis, until the 18th or 20th of last March. First piles came on, which gave him considerable trouble. Then his feet swelled, and his legs became œdematous. Afterwards his abdomen began to swell. He lost flesh, strength, and appetite, and his abdomen and legs rapidly increased in size. After about two weeks and a half jaundice came on, and on April 7th he was admitted into the Adelaide Hospital under the care of Dr. Beatty. On May 12th he was tapped. Up to that time it was uncertain whether it was cirrhosis or cancer of the liver that he had. When the tapping was performed the fluid that came away was ascitic and largely coloured with blood. A hard nodulated mass was then felt under the right costal arch, extending out to the epigastrium. The diagnosis then arrived at was that it was cancer or some malignant disease of the liver. At the tapping eighteen pints and a half of fluid were withdrawn. His abdomen refilled; he grew weaker, became unable to take food, and died on May 21st. On post mortem examination his abdomen was found to be again immensely distended with fluid, the quantity being between two and three gallons. This fluid also was extremely bloody, and from the deeper portions of the peritoneal cavity large soft blood-clots came. The liver, which weighed four pounds and three-quarters, was found to be in a curious condition. The left lobe presented very typically the characters of extreme cirrhosis, being extremely hard, and converted, for the most part, into bands of greyish dense fibrous tissue. The right lobe was largely increased in size from above downwards, and was bright yellow coloured, the yellow coloured part being marked off by a distinct line from the grey cirrhosis in the neighbourhood. This yellow part was perfectly soft, while the left lobe was like a mass of leather. About half of the right lobe at all events was in this peculiar soft yellow condition. The trunk of the portal vein was filled for an inch or two with a soft clot; but the walls of the vein were perfectly healthy; the vein at some distance from the liver was also healthy. The sections did not show any necrosis of the soft diffluent tissue, but owing to the amount of obstruction to the circulation it was softened and on the way to necrotic change.

The Section then adjourned till next November.

Reviews and Notices of Books.

A Handbook of Gynæcological Operations. By ALBAN H. G. DORAN, F.R.C.S. London: J. & A. Churchill.

THIS book treats of those operations upon the female pelvic organs which are accepted by the profession. It deals not with what has been called "minor gynæcological operations," and we congratulate the author upon this fact. All the information necessary for carrying out the operations treated of will be found in the work, for the author has not confined himself to a description of the operations simply. Chapter 1 treats of the surgical anatomy of the female organs, a subject imperfectly taught in the anatomical theatre, but of enormous importance in some of the operations performed on the pelvic organs. Chapter 2 treats of pelvic exploration. In Chapters 3, 4, and 5 will be found an account of instruments and appliances and their use. In Chapter 6 a brief account is given of cystic and allied diseases of the uterine appendages, and the examination of abdominal tumours, while the remainder of the book is devoted to an account of ovariotomy, oöphorectomy, supra-vaginal hysterectomy, operations for fibroid tumours and polypi, vaginal extirpation of the uterus, amputation of the cervix, trachelorrhaphy, operative treatment of extra-uterine pregnancy, Cæsarean section and Porro's operation, operations on the perineum, for rectal and vaginal fistulæ and ectopia vesicæ, and on the vagina, vulvar structures, and urethra. Mr. Doran is in favour of performing ovariotomy early, as soon indeed as the tumour is diagnosed, a view which is now generally accepted, but which became tenable only in consequence of the great reduction in the mortality after the operation, brought about after the introduction of antiseptics into surgical practice. The observations on tapping abdominal tumours are excellent. The author is opposed to tapping ovarian and broad ligament tumours as a rule; at the same time he gives clearly the indications which call for this proceeding. All the steps of the operation for the removal of ovarian tumours are given in detail, together with the difficulties the operator may meet with, and the methods for overcoming them. Mr. Doran is not in favour of a short incision in the abdominal wall; but he fails to bring out clearly the first and perhaps the chief advantage of the longer over the short incision—that is, that the longer incision admits of exploration by the whole hand, which will enable the operator to make out the relations of the tumour to surrounding organs, and the possibility of its removal; in fact, to complete his diagnosis. As soon as the abdomen has been opened, it is the first duty of the operator to explore with the whole hand, so that he may make sure of what he has to deal with. Through neglect of this rule the trocar has been thrust into the gravid uterus, fibroid tumours, and even into the enlarged spleen under the erroneous impression that they were ovarian cysts.

The treatment of patients after ovariotomy is fully discussed. The author favours the administration of food by the mouth and by the rectum from the outset, and lays, we think, too much stress upon it. Most patients do well without food for the first forty-eight hours or longer after the operation, while food introduced into the stomach often remains unabsorbed, and causes flatulence and oppression; enemata, again, occasion discomfort, are liable to become very offensive, and set up irritation of the bowel; they should be administered to old or weakly subjects only.

The directions given for the removal of the ovaries and of fibroid tumours, and the other operations treated of in the work, are all that could be desired; but there are questions connected with some of these operations which are still the subjects of discussion, and the conditions calling for oöphorectomy, Emmet's operation, and supra-vaginal hysterectomy for fibroids are matters with regard to which great divergence of opinion prevails. The frequency with which oöphorectomy has been performed has been disapproved by most of the authorities on the diseases of women in this country, as well as by the leaders of the profession generally, while Emmet's operation has not been frequently performed here, or if it has, the results have not been made public. Upon the conditions demanding these operations we find but little information in Mr. Doran's book. The opinions of one or two authorities which are given are insufficient to enable the would-be operator to form a correct judgment as to the necessity of operating in any given case. Those practitioners requiring such a work as "Gynæcological Operations" need direct teaching, and such direct teaching exercises a far greater influence than any statement of the opinions of different authorities, however complete. We cannot help regretting the absence in this work of such direct and guiding statements upon these subjects, for, in other respects, the book supplies all the information which the operator requires.

THE LANCET.

LONDON: SATURDAY, AUGUST 11, 1888.

DURING the present week the British Medical Association has been holding its fifty-sixth annual meeting at Glasgow. The gathering has been markedly successful, the sectional proceedings being characterised by commendable zeal, whilst socially the visitors to the great city on the Clyde have been the recipients of the proverbial hospitality of its inhabitants. To-day (Saturday) the members are dispersed in various directions to enjoy the natural beauties of Scottish scenery. In their retrospect of the week's work, all must, we think, concur in the opinion that the address of the President was fully worthy the occasion, and that in some respects it stands out before all the rest of the proceedings to which it was the introduction. If the Association has been fortunate in its place of meeting, and in its work, it has been fully as fortunate in having as President one who, like Professor W. T. GAIRDNER, has throughout his life so fully identified himself with medical education, and who justly occupies so honourable a position amongst physicians of the day. There was a manly, earnest ring about his address, which, combined with shrewd common sense, makes it of abiding interest. Those who heard it delivered must have felt that their President had stood forth as the vindicator of medicine and the position of her followers with regard both to science and to religion.

After a brief allusion—inevitable on such occasions—to the history of the place of meeting, and a contrast of the Glasgow of the past with that of the present, the address passed to its theme, which was, "The Physician as Naturalist and as Healer." Professor GAIRDNER pointed out that the term "physician" recalls the *rôle* applied by HIPPOCRATES to the healer of the sick. He is the servant of nature, and his whole art is bounded by the observation of natural phenomena and their interpretation. It is interesting to note how the term has become degraded, so that "physic" indicates, not so much the study of nature and the application of nature's laws, as the art whereby it is sought to counteract the operations of nature. For, as Professor GAIRDNER showed, the whole medical world left the path pointed out by HIPPOCRATES to follow only traditions and aphorisms, and instead of becoming a scientific became a *learned* profession, with results which probably can never be estimated. It is remarkable how far above and beyond the generations of physicians that followed him stands HIPPOCRATES in this conception of the *rôle* of the physician. There were not, indeed, wanting those who cavilled at the ideas of HIPPOCRATES, and who thought it absurd that one who undertook to cast out disease should do so by taking advantage of the natural processes—of the *vis medicatrix naturæ*. For them and their practice the traditions of the "fathers of medicine" sufficed, whilst those who ventured outside this beaten track, and inquired into the *rationale* of disease, were scouted as outside the pale of medicine. BACON, who, according to Professor GAIRDNER, adopted almost the very words of HIPPOCRATES in his famous exordium to the "Novum Organum," had a very poor opinion of the medical profession; he saw how totally opposed to scientific methods were the principles that governed the practice of physic in his day. It is remarkable how, under the influence of so-called "learning," the professors of a practical art like that of healing became for centuries a race of pedants, utterly blind to the facts of nature daily exhibited before them, and bound hand and foot by the traditions of the past. How this erroneous conception of the physician's province prevailed in some countries down to the last century is to be seen in the trenchant sarcasms of MOLIÈRE. We can afford to smile at these criticisms now, but we cannot deny that they were well founded; for even in our country we know how little regarded was HARVEY by the physicians of his day,—a slight of which even now we see some traces in the contempt that some of the "practical" men amongst us have for science. Yet it is owing to men like HARVEY, to those who follow out the maxim that "all the art of medicine depends on observation," that we owe the deliverance from the bondage of creeds and systems, and the disappearance from amongst us of that type of physician characterised by Professor GAIRDNER as a "most stupid, pompous, brainless formalist."

Undoubtedly the growth of science has done much to effect this salutary change; and a large part of Professor GAIRDNER'S address was devoted to establish scientific teaching in its rightful place as the foundation of medical study. With pardonable pride he pointed to the early recognition by the Scotch Universities of the importance and value of science in medical training. And we agree with him that many of our present difficulties in medical education are to be found in the lack of elementary scientific instruction in schools. He did well to recall the emphatic declarations of FARADAY upon this matter, and to remind us how far we are yet from recognising their truth. We commend to educationists his just and true description of the stunting effect of our modern methods of school training upon the intelligence, and the crying need there is for the early cultivation of the senses and the reason in observation of nature's phenomena. We have always urged that natural science is the true basis of medical knowledge, but, at the same time, we maintain that the youth should be required to commence his study of pure science long before he takes up his pursuit of the medical sciences; yet under the present *régime* of our educational systems this is very seldom the case. The result is that we are compelled to crowd into the few years of medical study not only all that pertains to the structure and functions of the body in health and disease, to the observation of morbid processes and the measures aiding in the restoration to health—not only these vast subjects, but even the sciences on which they are based, such as physics and chemistry! How is it possible under such conditions ever to effect a thorough training of the student, or to make a man a real "physician" in the Hippocratic sense? It is not supposed—it would be absurd to expect—that the medical practitioner should be fully cognisant of all branches of science; but we entirely agree with Dr. GAIRDNER that it is the discipline of mind entailed by the study of science, the importance of inculcating habits of accuracy in observation and careful-

ness in inference, that are so important, and, indeed, essential to the making of sound practitioners.

If, then, we agree with Professor GAIRDNER in the views he so ably expressed concerning the pursuit of medicine as a science, as being the true line to be adopted by the physician as the *healer*, we are equally gratified with his noble exposition of the modern *religio medici*. Nor do we think that his remarks on this head are at all misplaced. It is too much the custom of those who wish to dethrone science to make capital out of its materialistic tendencies, and to seek to widen the breach between science and religion. But we hold that it is not religion in its *essence*, but only in its false interpretation, that can in any sense be held to be opposed to the study of the marvellous processes of nature. Professor GAIRDNER has done good service in recalling attention to the nature of true religion, and in showing how the physician must be, whether confessedly or not, a religious man. Brought face to face with all the marvels of human material existence, it is impossible for him, of all men, to be blind to the fact that there are problems far beyond his powers of solution; and that, wide as his knowledge may be of the "things that are seen," his personal life and duties would be shorn of their highest sanctions if it were not for faith in the "things that are not seen."

THE efforts we have made to bring under public notice the widespread nature of the evils arising out of the sweating system have met with a prompt response at the hands of our hereditary legislators. First, to point out the new phase of the sweating system in the East-end of London, due to the advent of thousands of foreign refugees, we had the gratification, after four years' agitation, of seeing a Royal Commission appointed to investigate this subject. This done, we at once entered our protest that the East-end represented but a small corner of the grievance; and, to prove this assertion, we held Special Commission inquiries in the principal sweating centres of the provinces. Our first report dealing with the provinces was published last April, and since that time the controversy produced has raged throughout the provincial press. Nor did it fail to find an echo in the London journals, Organs of all parties, notably the *Daily News* and the *Standard*, supported our endeavours, and alluded in complimentary language to the thoroughness of our researches in the provinces. The desired result has consequently been attained; that which we from the first desired has been realised. The original scope of the House of Lords Commission is now recognised as altogether inadequate, and assent has been obtained to carry out the inquiry to other parts of the metropolis and to the provinces. On Friday last the Earl of DUNRAVEN moved to extend the inquiry to "the United Kingdom." The Earl of MEATH, in supporting the motion, justly remarked that the action of the Commission had already indirectly benefited a larger number of Her Majesty's poorer subjects than any legislation which had been effected during the present session.

Consequently the ground over which we have already travelled will be revisited, and this time with all the facilities and all the authority a Royal Commission confers. It will then be found that our pioneer efforts have already brought about some notable alterations. Not only have we the satisfaction of bringing Government action to bear upon the provinces, but improvements due to the attention aroused by our revelations will have preceded the action of the House of Lords. Of course, attempts of a more or less interested nature were made to minimise the effects of our reports. On several occasions these reports were assumed to be exaggerated or overdrawn; and yet the very persons by whom we were thus criticised themselves confirmed all the important points on which we insisted. Thus, for instance, after several weeks have elapsed and due investigations were made, the Birmingham Town Council held a solemn sitting to hear the report of the Health Committee on THE LANCET revelations. These were described as exaggerated, and yet the medical officer of health asserted that the cubic space in the workshops varied from 448 to 178 cubic feet. It is not necessary to point out that this confirms our contention. There should be at least 250 cubic feet for each person, and naturally there would be less workpeople in the room at the time of the inspector's visit than when business is brisk, so that the cubic space is often less than that mentioned above. Then the medical officer of health went on to say that in some cases the closets were filthy and too near the workshops. This evil, we are assured, will now be remedied; the closets will be removed. So that much will have been gained. Then a letter from Her Majesty's Inspector of Factories was read, stating that "almost all, if not all, the workshops are exempt from lime-washing, being dwelling houses, and papered, although most filthily. The privies are also in most cases very dirty, and the ashpits are not often enough emptied. Ventilators, when provided, the *employés* will not use, and consequently the atmosphere is usually disgusting." This is surely confirmation enough of our report, and this the Birmingham press freely acknowledged. As another excellent practical result, the factory inspector and the medical officer of health of Birmingham have now undertaken to exchange notes and actively assist each other.

At Leeds, where some very great manufacturing interests are at stake, we received our full share of criticism. The *Leeds Mercury* sent a special correspondent to visit all the places we had described. Three very lengthy articles were the result, in which the places we had denounced were depicted in language far more energetic than that which our Commissioner had ventured to use. The Town Council, on its side, held a special inquiry, and the report of Mr. NEWHOUSE, the principal inspector at Leeds, fully confirmed all our statements. Consequently some of the nuisances we specified will be abolished. Dr. GOLDIE, the medical officer of health for Leeds, with commendable energy, at once set to work inspecting and reporting; and, while occasionally introducing a few words to soothe local susceptibilities, he denounced emphatically enough the darkness, the dirt, and the accumulations of dust on the floor and on the rough and unclean walls of the workshops. The deficiency in the number of closets and their filthy condition he also admits, expressing at the same time his surprise that the workers did not exhibit more evident signs of ill health. Thereupon the Corporation Health Committee concluded that some laxity in the inspection of workshops had grown up, owing to the conflict of authority between the factory inspectors and the

sanitary inspectors. Measures were forthwith taken to bring the two authorities together. Then both Dr. GOLDIE and Mr. NEWHOUSE were instructed to inspect periodically all workshops such as we had denounced, and further it was resolved to appoint an additional sanitary inspector, with "the intention of one inspector being specially told off to look after the sanitary condition, not only of the workshops, but the dwellings of the people employed in them."

In Liverpool, Manchester, Glasgow, and Edinburgh the local authorities have also earnestly discussed our reports on their respective towns, and several of the more glaring abuses are now removed. Some of the sweating dens that had escaped observation are now brought under the provisions of the Factory Act; and, what is more important, the authorities are awakening to the fact that a heavy responsibility rests upon them in the giving out of contracts for the making of clothes. In this respect a very edifying discussion took place at the Glasgow Town Council. With regard to municipal contracts, Bailie GRAY explained that "with two gentlemen he called upon various offerers for the making of police clothes in the city. They were anxious to know where the clothing was made. They called on the lowest offerer, a very respectable firm in Argyle-street. They told him he was the lowest offerer, and that they were desirous of seeing the premises where the clothing was made if they got the contract. He frankly told them that he gave them out, and they could not see the premises where they were made. They at once struck that man off the list. They called upon another large firm in Argyle-street, and were shown over the premises where a portion of the clothing was made. It was downstairs, and insufficiently lighted, but they were told also that a very large portion of the clothing would be given out. They therefore went to the next man on the list."

This is assuredly a good example of what should be done with regard to municipal contracts. But more than mere casual inquiry is wanted. Close supervision is necessary, for the terms of a contract are not always observed, and clothes stated to be made on the premises are often sent to the homes of the worker or of some sub-contractor. Still, it will be seen that the municipalities are beginning to look to something beyond mere cheapness. Thus the principles we have sought to advocate are beginning to take root; and even in the course of a few weeks material practical improvements have been realised.

THE address of Sir WILLIAM TURNER on the occasion of the graduation ceremonial in medicine is worthy of the best days and traditions of the Edinburgh University. It is characteristic of Sir WILLIAM that, though himself an Englishman, and a distinguished *alumnus* of St. Bartholomew's and graduate of London, he is a deep believer in the Scotch university system—at least, as seen in Edinburgh,—as well he may be. It has done well for him, and well has he served it. Not, perhaps, sent into the world with the same mission as his gifted predecessor, and possibly endowed with a less soaring and generalising genius in anatomy, he stands, nevertheless, well in the succession, and has brought qualities to the chair and to the school which even GOODSIR had not to give. His common sense is as striking as his knowledge of anatomy, and he has further the faculty of expression—so that whether before a class of 500 lecturing on the temporal bone, or before a Select Committee of the House of Commons or the Medical Council defending the Scotch system of teaching and graduation, he is sure to command attention. His address to the undergraduates is interesting in many respects. It shows the immense progress made in medical science and art; and it shows, too, that the Professors of Edinburgh will be lastingly identified with this progress, particularly with two of the chief notes by which the history of medicine in the nineteenth century will be judged—viz., the discovery of the properties of chloroform and the introduction of the antiseptic system into surgery. Sir WILLIAM TURNER rebuts the charge that there is any deficiency in the means in Edinburgh for ensuring the practical element in medical education. True, he lately seemed to make the serious admission in the Medical Council that Scotland, though not generally regarded as an infertile country, could not provide a sufficient number of gravid women to enable medical students to attend the number of obstetric cases required by the English Boards. But he points triumphantly to the splendid laboratories and other new buildings of the University, including a stately Academic Hall, to be presented by Mr. MCEWAN, M.P., to the University; and he shows how the old lecturing system of Edinburgh has been supplemented by one in which the student is made to observe and test facts for himself. The necessity for developing this faculty for observation was insisted on, and Sir WILLIAM TURNER expressed a decided doubt whether this development was much helped by too prolonged a study in the Arts Faculty. He confessed to having got an important lesson out of a dialogue he read in early life between a tutor and his pupil, entitled "Eyes and no Eyes, or the Art of Seeing." The discourse of the Professor was crowned with an admirable discussion of the moral aspects of the profession, and their importance not only to the graduates, but to their patients, their professional neighbours, and the public. The universities are weak in their control over the conduct of their graduates. They have not the judicial and censorial functions of the corporations; and this is a serious deficiency. "Once a graduate, always a graduate" has a serious side to it, as a university has not the power of ridding itself of a member who has acted unworthy of his university and of his degree. It is, perhaps, true that universities hold high before their *alumni* the academic standard of conduct and of character, and it is certain that if the Edinburgh graduates of last Wednesday act up to the principles expressed by Sir WILLIAM TURNER they will advance the reputation alike of their University and of their profession.

SIR JAMES CRICHTON BROWNE'S classical and practical lecture, which appeared in our columns on July 28th and August 4th, cannot fail to attract attention, and excite discussion on the question of criminal responsibility, by members of the legal and medical professions, as well as by the educated public at large. For our own part, we unhesitatingly adopt the arguments of the lecturer, and support his appeal for the appointment of a "Criminal Lunacy Inquiry Commission," which he proposes for the purpose of making systematic and periodical investigations

into the condition of criminal lunatics after their consignment to Broadmoor Asylum. There are some prisoners and convicts concerning whose insanity no doubt can arise, even in the mind of the laity; but there are others whose crimes, although apparently—that is, to the ordinary observer—committed whilst in full possession of will power, are yet traceable by the expert to diminution of voluntary control. If happily these latter escape with their lives to be "detained during Her Majesty's pleasure," it is obvious that a complete record of their acts and demeanour during their incarceration should not only be preserved, but published, in confirmation of the grounds upon which they were sent to enforced confinement instead of to the gallows. If this were done, there would be less disposition than there is at present to hesitate to accept the opinion of expert medical witnesses upon the relationship of insanity to crime. Whilst, however, the recorded history of so-called criminal lunatics ends with their public career, there will necessarily be a great tendency to regard with distrust the plea of irresponsibility set up in answer to a charge of wilful murder. Perhaps the most cogent remarks in Sir J. CRICHTON BROWNE's lecture were those in which he attacked and demolished the tenets held by Lord BRAMWELL upon the most fitting jury—lay or medical—to decide upon a man's insanity. As is well known, his Lordship holds the opinion that "common sense" is sufficient to determine the question at issue, and that there is no necessity for special expert knowledge. Nor is Lord BRAMWELL singular in this opinion, for not long since we had occasion to contest the "common-sense" ruling of one of our judges, "that the question of a prisoner's insanity was one for the jury, and not for the medical witness."

As our readers will have observed, Sir J. CRICHTON BROWNE proposes that the suggested Criminal Lunacy Inquiry Commission should consist of lawyers and medical men. One's first impression would be that so apparently incongruous an admixture of legal and medical minds would be unlikely to yield useful practical results, but such preconception must give way before the assurance vouchsafed that both in the case of the Lord Chancellor's Visitors and in that of the Board of Commissioners in Lunacy—each of which has its legal and medical representatives—"the lawyers, with striking aptitude, adopt the scientific standpoint" when brought into contact with their medical colleagues. It must not be gathered from this statement that the lawyers are mere servile puppets, and that their pay is an "unearned increment" to their means, since "the severe intellectual training which a barrister goes through, the art which he acquires in his profession of sifting evidence and of concentrating his attention upon minute details, as in reading judicial decisions, prepares him to look with insight and judgment upon cases of insanity when they are brought under his personal notice."

We have over and over again in these columns declaimed against the existing legal test of criminal responsibility—viz., the knowledge of right and wrong, or of the nature and consequences of a criminal act. It is long since such test was proved by medical science to be unreliable, since it is so often fallacious. Such a commission as Sir J. CRICHTON BROWNE requests would tend by its investigations and reports to move the lethargic legal mind to see the advisability—nay, the necessity—of reform in this important matter, and thus to force the Legislature to substitute proved scientific data for the so-called "common sense" as adopted by Lord BRAMWELL and others. In conclusion, we would suggest that the Criminal Lunacy Inquiry Commission should not confine its labours to investigating the cases of the Broadmoor prisoners, but should act as assessors to the courts appointed to determine the mental condition of persons alleged to be insane.

Annotations.

"Ne quid nimis."

THE DIET OF THE SOLDIER.

IN the debate upon the Army Estimates on Saturday last an interesting and important discussion took place on the subject of the diet provided for the soldier. Dr. Farquharson, by whom the subject was introduced, was of opinion that the ration was not only insufficient in quantity, but that the hours arranged for the soldiers' meals were very injudicious, and especially so for the recruits. He expressed a strong hope that the Government would take steps to have the whole subject carefully considered by a departmental committee composed of persons conversant with the subject. His views were supported by Sir G. Hunter, Mr. Hanbury, Colonel Nolan, and Lord H. Bruce. In addition to the insufficiency of the food, complaint was made of the quality of the meat supplied, Mr. Hanbury asserting that "it was by no means the fact that the soldier got the food for which the country paid." It seemed to be generally admitted that the system of inspection of the food was very defective; that it was entrusted too much to young and inexperienced officers, who "knew nothing about the quality of meat"; and that "owing to the meat ration being inspected at an early hour of the morning, the inspection was hurried over, and a large quantity of bone and sometimes of very inferior meat was often passed." We are not quite prepared to say that the amount of food has been proved to be insufficient if all the other necessary conditions were efficiently carried out, but there cannot be the least doubt that the whole system requires careful and practical revision. We do not find that any reference was made in the debate to the cooking for the soldier, but this we are quite certain needs great improvement. The subject was well considered by Lord Herbert's commission, and some steps were taken to provide skilled cooks by the establishment of a school of cookery at Aldershot, but for some reason or other the experiment has failed of success, and the army cooking is still very much below par. Mr. Stanhope has promised that the question of the adequacy of the meat supply shall be thoroughly gone into by a committee. But the scope of inquiry must be extended beyond the mere quantity. An efficient system of supervision of both quantity and quality of the meat delivered to the troops must be devised, and the duty devolved upon officers of experience. Instruction must be given at the military colleges on the subject of the quality of meat, how to distinguish the good from the bad, and officers be thus trained for an important duty, and stringent regulations must be enforced as to the rejection of any meat or other article of food that does not come up to the standard. A change is required in the mode of cooking, and in the nature of the instruction given to the soldiers entrusted with that duty. This, if well devised and adequately carried out, would tend to diminish the complaint as to insufficient quantity, for we believe that in this

manner much that now goes to waste would be utilised. A change is needed in the hours at which the meals are provided, the interval between dinner and breakfast, even when partially broken by tea, being much too long, and giving rise to a craving which is too often made an excuse for indulgence in stimulants. Another very important point for consideration is whether it would be possible, as we feel sure it would be advantageous, to diet the recruits separately from the soldiers during the first few months of their service. The subject is one of great interest to all who care for the welfare of the soldier, and we trust that in the selection of the members of the promised committee the Secretary of State will be careful to nominate officers who have not only had experience, but have shown that they take a practical interest in the question, men not given to fads, and, above all, men who are not likely to take red-tape views of the question. The first point to be considered is what will be most beneficial to the soldier, and therefore to the service; and the second, how this can be effected without such an increase in expenditure as will be certain to excite opposition on the part of those who have to provide the means of carrying on the service—judicious expenditure tempered with a wise economy.

PROTECTION FROM FIRE.

NOT many consecutive weeks elapse without bringing home to Londoners the perils to life and limb which lurk in the liability of our crowded habitations to take fire; and a special interest therefore attached to the Fire Rescue Exhibition which has been held during the last fortnight in the Portman Rooms. Under another aspect, also, the exhibition was of interest, for it afforded striking demonstration of the great versatility of invention applied to the work of rescue under various conditions of danger from fire. But the prevailing impression that a visitor carried away was that much still needs to be done in the way of making inventors understand what are the elementary conditions under which they work, for it would be difficult to collect in any other connexion so much hopelessly useless machinery, or so many examples of misapplied ingenuity. Here, for example, was shown a metal ladder, constructed for stowing away above the topmost window of a high building in such a position that it would, upon being released, fall by its own weight in front of the line of windows below, from which fugitives might desire to escape. But, in order to release it, the unhappy fugitive must lean out at the window for the purpose of reaching the rod or rope which communicates with the locking gear, thus incurring the imminent risk of bringing the iron avalanche down upon his head. Another proposed method proceeds upon the assumption that next-door neighbours will consent to the establishment of internal means of intercommunication between adjoining houses which can be made use of from either side at any moment; and many other equally impossible arrangements were exhibited in the most perfect good faith. But although many useless devices were on view, there were some inventions of real merit exhibited, and the visitor could hardly fail to carry away some valuable hints. Among the classes of fire escapes, the most practically useful seemed to us to be those which consisted merely of a friction block running on a smooth rope, and carrying a band, by which a body can be suspended. The friction of the rope prevents a too rapid descent, and a small handle makes it possible at any moment to grip the rope so tightly as to stop the descent altogether. It affords, therefore, a perfectly practicable way of descending the front of a house, provided there are no flames belching forth below and making the descent dangerous. But its peculiar merit is that it is perfectly simple in use, the only adjustment required being to make one end of the rope fast to some piece of furniture in the room sufficiently heavy to bear the strain upon it, and that the apparatus is strictly portable, for the block, rope, and fittings wrap together into a space not exceeding that occupied by a clean shirt. To travellers, therefore, this contrivance offers a cheap and serviceable resource, which may be kept constantly at hand, and might upon emergency prove of inestimable service. Other fire escapes were shown, for which it was claimed that they were portable, but they all required such elaborate anchorage and fitting of one kind or another into the buildings where they were to be used that they might better be described as structural, and none of them was distinguished by any conspicuous merit. For the protection of buildings several highly ingenious appliances were shown, and in this department the success attained was much more pronounced. Of sensitive alarms and automatic sprinklers it would take long to tell; nor have these, from our point of view, the same interest which attaches to appliances having the direct object of rescuing imperilled life from fire. They therefore may be dismissed with a general word of commendation; but we cannot conclude our review without especial notice of a somewhat elaborate respirator, designed to enable its wearer to breathe an atmosphere laden with smoke. The air as it passes through this instrument is first cooled by means of a sponge moistened with water and then filtered by cotton wool saturated with glycerine. Of its efficiency no tests were given, but it may fairly be assumed that, to some extent at least, it would answer its purpose. The idea is one that merits adaptation to other purposes, for it is well known that a vast amount of lung disease is occasioned by breathing atmosphere charged with irritating dust which finds its way into the air passages and cells.

MOVEMENTS OF EXPRESSION.

MIMICRY and gesture arise for the most part as the outcome of the exercise of the imitative faculty. Blindness, whether congenital or acquired, may be partly recognised by the want of play in the countenance; very shortsighted, even if very intelligent, individuals often have very blank faces, unless the errors of refraction have been corrected by artificial means. When speaking or eating the facial muscles of the blind perhaps move less than those of emmetropic individuals. The new-born are naturally devoid of any characteristic play of the face, and this accounts for the difficulty of getting a good portrait, or even a good description, of them. During the first days of life it is difficult to distinguish by the face the joyful from the sad, or the intelligent from the stupid. In the second six months of existence an earnest mode of speaking to a healthy infant brings an expression of earnestness into its face, and a change from gravity to cheerfulness may also easily be produced. Although most of these movements result from imitation, a few are to be attributed simply to reflex sources, and a few have an intuitive origin. So long as words are wanting, children, like the higher animals, communicate their feelings and thoughts by demonstrative movements and behaviour. The infant's first smiles are often misunderstood. An agreeable perception or a feeling of satisfaction is necessary to the causation of a smile, and these sensations must be of sufficient strength to occasion a stimulation of the corresponding parts of the facial nerve centres. Now the number of sensations of pleasurable sort which are possible to a baby of a few days old is very few, and a perception in the proper sense of the word is beyond its capacity. The being bathed or suckled does not cause it to smile, but its countenance expresses simple satisfaction, probably because of the absence for the time being of all uncomfortable feeling. Even sleeping infants a few days old lift the angles of the mouth in an incipient smile, if such it may be named. Very lively faces

with dimples in the cheeks, but with closed eyes and other signs of sleep, are matters of common observation. On the twelfth day of life Preyer observed on the face of a waking infant most of the characteristics of a smile, though the mouth movements were imperfect. It was on the twenty-sixth day of life that he first observed all the signs of an intelligent smile in his own child.

OPIUM POISONING IN INFANCY.

NOTWITHSTANDING the numerous warnings which are so frequently given of the danger of the employment of opiates in infancy, the soothing influence still claims its votaries and its victims. In the last case which has come under our notice four drops of laudanum were administered by the mother to a child about five months old, and, in spite of subsequent treatment, the child died. The case is perfectly typical. The child had been artificially fed from six weeks old, and when it became very irritable the opiate was ignorantly given without any medical advice. It is highly probable that had the child been properly attended to, instead of having laudanum given to it, some slight error of diet or digestion would have been discovered, and the life saved by judicious feeding and comparatively trivial treatment. Only after two hours and a half, on becoming alarmed by the sound sleep, did the mother call in help. The verdict, as usual, amounted only to "accidental death," but the coroner made some very strong remarks upon the ease with which poisons could be obtained. The danger of opiates in infancy are sufficiently appreciated by the profession, but a lingering fondness for soothing potions lurks in the minds of many of the wise women of the poorer classes. Until this is eradicated, or until further restrictions are placed upon their sale, it is to be feared that the infant mortality from this cause will continue to be very high.

LEGISLATION FOR HABITUAL DRUNKARDS.

THE question of habitual drunkenness stands somewhat apart from that of ordinary intemperance. It is more a medical question, or one at least in which the State should be guided largely by the best medical judgment. It is undoubtedly the opinion of most medical men of any authority that habitual drunkenness is a disease, a form of insanity, in which the will of the patient is weak and is hopelessly paralysed by even a small quantity of alcohol. He may make the most virtuous resolutions, and have the best intention of keeping them, but with little chance of success unless alcohol can be kept out of his way. How to accomplish this is the difficulty, and a very great one. The friends of temperance have been rejoicing over the feat of our legislators, by which the expiring Habitual Drunkards Act of 1879 has become a permanent law. The only change of any consequence in the law itself is in the fact that, instead of two justices of the peace having jurisdiction under the Summary Jurisdiction Act, in the place where the matter requiring the cognisance of a justice arises, being required to attest the signature of a drunkard applying to be admitted to a retreat, any two justices may attest. It is well to be thankful for small mercies. But this Habitual Drunkards Act is really a very small one. To require the consent of the drunkard to his own adequate treatment in a retreat is to require the very condition which in the most urgent cases cannot be obtained, and for want of which the majority of habitual drunkards go to the bad without the benefit of even an experiment in their favour. For legislation of this kind we have little respect, and we can be no parties to making legislators think they have done anything adequate by it. Men should not be deprived of their liberty for light reasons. But if the habitual drunkard shows that his disease is of the nature of insanity, it is no more reasonable to ask his consent for the necessary seclusion and treatment than to ask the consent of any other person of unsound mind. The fourth annual report of the Dalrymple Home at Rickmansworth, for 1887-88, is before us, and is encouraging to those who believe in the attempt to save drunkards. Of 115 patients who have passed through the Home, the after history of ninety-seven is known. Of these fifty-two are doing well, four are improved, four have died, and one has become insane. The average duration of the disease before treatment in these cases was eight years and a half. It is reasonably suggested in the report that had treatment been begun before the disease was so advanced, the success would have been still greater. There is no provision for poor patients that are inebriate, and we seem as yet far from the likelihood of getting such a provision. Of the thirty-three patients admitted during the past year fourteen were admitted under the Act and nineteen as private patients.

MEDICAL INSTITUTE OF VALENCIA.

THE Medical Institute of Valencia, which distinguishes itself by annually offering prizes for essays on various medical topics, which essays may be written in almost any well-known language except German, has recently published its report of the work done during the past session. As a notice of the subjects for prizes appeared in THE LANCET, perhaps an account of the awards may not be without interest, especially as the secretary is precluded from corresponding with unsuccessful candidates, their names being in sealed envelopes, which are scrupulously burnt unopened. Upon the subject of "Chorea, its Forms and Treatment," nine essays were received. The first and second prizes were not awarded, but the third was adjudged to an essay written in English by William Kingston, Vance (Chicago). Two essays on the surgical subject—viz., "Tumours of the Ovary: Differential Diagnosis and Surgical Treatment required"—were received. Both these papers were considered to come up to the standard of the third prize. This was awarded to Don Rafael Martínez Seguí of Cheste. The motto on the other paper commences, "Las estadisticas establecen no solamente que la ovariotomía ha conquistado un lugar entre las grandes operaciones quirúrgicas, sino &c." (statistics establish not only that ovariotomy has won a place amongst great surgical operations, but &c.). The sealed envelope will be opened if the author gives his permission, and he will be made an honorary member of the Society. Four essays were sent in for the prizes offered without restriction of subject. Not one of these, however, was considered of sufficient merit to gain a prize. The special prize, given by Dr. Ferrer y Julve, was awarded to Dr. Don Lope Valcarcel Vargas, the author of the only paper sent in for it. The following are the subjects for the present year: Medicine: "Critical opinion on bleeding in the treatment of internal diseases." Surgery: "Etiology, pathogenesis, and treatment of tranmatic tetanus." Auxiliary Sciences and Pharmacy: "Chemical methods of disinfection of vitiated air, applicable to public and private buildings, without danger to their inmates." Open subject: Solution of some scientific question, the choice of which is left to the author. An extraordinary prize, consisting of books, will be awarded to the author of the best paper on the "Therapeutic value of Tracheotomy in Laryngeal and Tracheal Affections: amongst the known methods, which deserves the preference for rapidity and success?" There are three prizes in each of the four ordinary classes above mentioned—viz., (1) a gold medal, (2) the diploma of member by merit, and (3) the diploma of honorary member. The papers may be written in Spanish, Latin, French, Portuguese, English, or Italian. They must not be signed, and the author must not, either directly or indirectly, divulge his name. Each essay must bear a motto, and

must be accompanied by a sealed envelope, containing the name, titles, and address of the writer, and bearing on the outside the same motto as his paper. The last day for receiving the essays is Dec. 1st, 1888. They should be directed to Señor Don Dr. Manuel Olmos, el Secretario del Instituto Médico Valenciano, Calle del Triador 11, Valencia, Spain. The prizes will be distributed at the annual meeting, the forty-ninth anniversary of the Institute, to be held on March 31st, 1889.

THE NEUROSES OF HEART DISEASE.

THE nervous symptoms accompanying cases of heart disease are often numerous, and their combination is frequently curious, and not always easily explained on physiological principles. Sometimes the physician finds a large heart with valvular disease, and simply faintness as the only troublesome symptom, and this but an occasional one. Physicians have not seldom been called upon to treat distressing nausea, sometimes with diarrhœa and without any signs pointing to an altered state of the mucous membranes; the heart cannot be said to have failed in its compensation; the tongue may be normally clean; the stools present nothing abnormal, except that they sink in water and are too loose, time not having been allowed for the natural changes incidental to residence in the large bowel. We all know the troublesome, often barking, cough not necessarily associated with congestion of the lungs secondary to the valvular deficiency. No doubt many of the symptoms are to be explained on the view of inequality, if not inadequacy, of the circulation through the abdominal and thoracic viscera, or through the brain and spinal cord; but it seems that we must recognise pure neuroses not so caused, and a careful study of the patient's previous and family history will bring out the neuropathic tendency as well as the rheumatic relationship. Sometimes, in fact, the nervous symptoms are not so much the effect of the heart disease as of a pre-existing neurotic susceptibility which may have actually developed—for example, in chorea—before the rheumatism had involved the valves of the heart. Those who advocate the nervous origin of rheumatism would perceive nothing antagonistic to their belief in this mode of viewing the subject.

THE TREATMENT OF SLEEPLESSNESS.

RECIPES for sleeplessness continue to present themselves. A fortnight ago we discussed the suggestion of a sufferer from this uncomfortable symptom who relied upon a species of artificial dreaming as a means of relief. Another of the same unfortunate class has found the following to be an effectual remedy in his own case. After taking a deep inspiration he holds his breath till discomfort is felt, then repeats the process a second and a third time. As a rule, this is enough to procure sleep. A slight degree of asphyxia is thus relied on as a soporific agent, but the theoretical correctness of this method is somewhat open to question. Certainly there is proof to show that the daily expenditure of oxygen is most active during the waking period, and that nightly sleep appears to coincide with a period of deficient tissue oxygenation. It is at least as probable, however, that other influences are associated with the production and timely recurrence of sleep besides that just referred to. This plan, moreover, however effectual and beneficial in the case of its author, is not without its disadvantages. The tendency of deficient oxygenation is to increase blood pressure and to slow the heart's action. With a normal organ, as an occasional occurrence this might not be of much consequence. If, however, the impeded heart should also be enfeebled by disease, the experiment might be repeated once too often. Another combatant in the struggle with insomnia lays down a series of rules, for the most part very sensible, to which he pins his faith. Considering that the chief causes of sleeplessness are mental worry and the want of a due amount of exercise and fresh air, he advises his fellow sufferers to observe the ordinary rules of hygiene relating to such matters, to take food and drink in moderation, and to avoid of an evening the use of tea, coffee, and tobacco. In dealing with severe nervous irritation from mental or physical work, he has found a daily rest an almost essential prelude to sleep at night. Thus, he treats of sleeplessness rather as a tendency requiring constitutional remedies than a symptom of mere brain excitation. There is much to be said for his theory and means of treatment.

INJURIOUS DYES IN DOMESTIC ARTICLES.

As might have been expected, the fact that considerable quantities of arsenic have been detected in various dyed stuffs and in the colours used in household decoration is attracting some attention in the commercial world. There is evidently a fear lest the results of recent inquiry should tell injuriously against the makers and salesmen of goods dyed with this metal, as well as the manufacturers of aniline colours. A contemporary speaks in a somewhat regretful tone of our own remarks upon this subject. In reply, we need hardly say that nothing is further from our minds than, by assuming an alarmist position, to advise any needless restriction of legitimate trade. At the same time, it is clear that no mere commercial advantage can be allowed if it is found to prejudice the health of an unsuspecting public. Experience has abundantly proved that the presence of arsenic in wall papers or hangings is distinctly hurtful, and no choice therefore remains but to discourage its use in these fabrics. This rule necessarily applies to all such aniline colouring matters as have acquired an arsenical taint in their preparation. The only satisfactory solution of the difficulty in the latter case must consist in the adoption of a purer process of manufacture than exists at present. Meanwhile, we may console ourselves with the reflection that many colours as attractive as those derived from arsenic have no such origin, and that some of these may rival in beauty while they excel in permanence the brilliant phantoms of the aniline series.

THE REPRESSION OF INDECENT PUBLICATIONS.

READERS of the Parliamentary news will have followed with equal disgust and indignation the facts related by Lord Mount-Temple last week in his protest against the sale of immoral literature. His action in this matter was by no means unnecessary, since, in spite of the so-called civilisation and the moral sense of our age, the systematic subversion of morality in the manner we have indicated has long been open to observation. The methods of this miserable form of blackguardism are various, but their effects are identical. Whether the offence be embodied in an openly obscene picture or publication, the handbill of a quack practitioner—another very common means of teaching vice,—or the shameless criticism of some prints, its evident purpose and result are to entangle in this filthy bird-lime the weak morality of careless young men and women. Why, says Lord Mount-Temple, should not the Public Prosecutor interfere in such cases? Why not, indeed? we may well ask. The subject seems to be one particularly suited to the functions of that official. The reply is that private individuals may prosecute in matters of this kind, or they may move the authorities to move the Police Commissioners, and through them the Public Prosecutor, provided the momentum be transmitted to him by the Treasury, to which he is primarily responsible. Surely most of our readers will endorse the remark of Lord

Fitzgerald that what we want is a summary mode of proceeding which will act surely, inexpensively, and rapidly. It seems, however, that such questions are difficult to deal with on account of the proof and the publicity which they involve. Other nations may, therefore, continue to enjoy the relief afforded by a more summary process, but we shall remain entrenched among our difficulties, and shall as heretofore look at everything, however disgusting, and touch nothing with a remedial purpose. This at all events is the present position of the case, and there is no immediate prospect of a change. The libertine and the licentious quack shall continue for a time longer to sow broadcast the seeds of vice, and we shall not hinder him. Surely something more can be done than has been done to amend this disgraceful evil. Can we not by some simple method of law prevent the sale of indecent prints by summarily punishing the vendor? Can we not in the interest of common decency dispense with much of the disgusting publicity which commonly attends the action of law in such cases? If we cannot, it is evident that our present legal machinery stands in serious need of reconstruction.

TRACHEOTOMY IN CROUP.

DR. VALDE Y ALDEBALDE, writing in a Spanish journal devoted to the diseases of women and children, urges upon his *confrères* the importance of overcoming their reluctance to perform tracheotomy in croup. He thinks that, if the cases in which this operation is performed in Spain, "especially those where the result is satisfactory," were published, medical men in small towns would feel much more disposed to undertake the operation, and the task of reconciling the parents to it would be rendered very much easier. Surely, there is enough already of reporting successful cases. What should be aimed at is that a true mirror of practice should be presented to the profession, which is not the case when unsuccessful operations are omitted and successful ones are duly published. Nothing is more difficult perhaps, than to estimate the results of tracheotomy in croup in private practice, especially under the conditions existing in the homes of the poor.

HOSPITAL RISKS IN ST. PETERSBURG.

IT may be remembered that a medical officer of the St. Petersburg hospitals, Dr. Dreipolkher, was sentenced to banishment in the Arctic regions a few months ago, because he had been unable to obtain admission for a poor woman into any of the hospitals, and in consequence of the delay of a few hours she succumbed to the cold. In this case, the entire sympathy of the profession was with the unfortunate doctor, who really seems to have done his best, and to have been entirely innocent of the charge of negligence brought against him. It was predicted at the time that hospital medical officers would probably find that the public would take advantage of the severity of the court to bully and terrorise over them, so that any man who accepted a position on a hospital staff would have to run some risk, however well he might do his duty, of being prosecuted or in some way maltreated by thoughtless, over-exacting, or evil-disposed persons. Something of this kind has recently come to pass. While a hospital medical officeer was engaged in examining a patient in the out-patient department a woman forced her way into the consulting-room and loudly demanded instant attention, as she was in great pain. She had a gumboil, it appears. The doctor told her she must really wait a little till her turn should come, when he would attend to her. She then began to cry and make a disturbance and refused to leave the room, so that he was obliged to summon the attendants to show her the door. Nothing more was heard of the case till the evening, when the husband, who as a customs official may be supposed to be a man of some little education, inquired for the doctor who had seen his wife. As soon as he appeared he struck him several blows on the face, asseverating that the doctor's conduct in the morning had made his wife so ill that she had had to have a doctor to see her since. On inquiry being made at the house, the lady was found contentedly sitting at table, the gumboil having broken. It is to be hoped that the customs official and his wife will be taught that hospital doctors cannot be treated in that fashion with impunity even in St. Petersburg. The latest news is that the husband has been discharged from his situation.

CAVENDISH COLLEGE, CAMBRIDGE.

A NEW association has been formed for the purpose of carrying on this College. The Chancellor of the University, the Duke of Devonshire, who has always taken great interest in and been an active supporter of the College, is President, and the Earl of Derby, the Master of Trinity College, and Professors Humphry and Liveing are among the vice-presidents. The College was founded in 1876, for the purpose of enabling students somewhat younger than the ordinary undergraduates to pass through a university course and obtain a university degree, and to secure the greatest practical economy in cost as well as time. It has fulfilled these purposes well, and has, we have good authority for saying, contributed some of the most successful students to the rapidly growing medical school of the University. The object of the new association is to increase the general efficiency of the College, more especially by making much-needed additions to the buildings, which occupy a healthy and agreeable position on the south side of the town. Mr. J. H. Flather, M.A., first-class classic in 1876, and lately tutor, has been appointed Master, and particulars respecting the College can be obtained from him.

ENTERIC FEVER IN SYDNEY AND SUBURBS.

AN instructive document has been issued by the Secretary to the Board of Health for Sydney on the prevalence and mortality for the city and suburbs during the last thirteen years. In the first instance, the number of deaths from this disease in each month of the ten years ending December, 1885, is given, together with the ratio calculated per 100,000 of the population, and from this it is seen that there was a very large progressive increase of mortality—namely, from 46·07 in 1876 to 102·17 in 1885. Following on 1886 there came, however, a change in the statistics. Thus, in 1886 the rate per 100,000 was 90·90; in 1887 it was 58·11; and for the first five months of 1888 it was greatly below that for the corresponding months in previous years. Setting aside any doubts which may arise as to the sufficiency of the period which has elapsed since the improvement commenced for the formation of any final judgment, the story is one that is very characteristic of growing communities, at first somewhat indifferent to faulty sanitary circumstances slowly but steadily growing up in their midst with increasing density of population, and then taking the matter in hand as one that must be dealt with. Information received from time to time from Sydney has given evidence of a feeling that sanitary considerations are now held to be of primary importance, and efforts have within recent years been made to control those conditions with which so preventable a disease as enteric fever is known to be associated. The document now before us lays especial stress on the need for a Public Health Act. This is certainly necessary, but it will probably need to be supplemented by an efficient code of local regulations or bye-laws which shall control the details of house construction in all matters bearing on the health of the inhabitants. Any new Public Health

Act might go much further in this direction than is the case with the corresponding statute in this country. Here, the principles of house sanitation have had to be learned little by little, and in order to give effect to gradually increasing knowledge it has been necessary to sanction the preparation and the periodic modification of local codes of bye-laws which have sought to keep pace with progress in sanitary developments. But there are now a number of definite principles which are universally accepted as to the health requirements of houses—as, for example, in such matters as privy construction, the laying and through ventilation of drains, the flushing and other appliances of waterclosets—which might well be embodied in a general statute, rather than be delegated to local bodies who could either adopt them or leave them alone. We trust the Secretary's advice will be speedily adopted, for we cannot separate the improvement which has recently taken place as regards enteric fever in Sydney from the adoption of certain measures of public health, and we shall look forward with interest to any general statute which may be prepared on the subject.

RELAPSES IN TYPHOID TREATED BY ANTIPYRETICS.

DR. F. T. PASTERNATSKI, in a lecture delivered before the professors of the Military Medico-Chirurgical Academy of St. Petersburg for the purpose of showing his fitness for the position of *privat docent*, or extra-mural lecturer in clinical medicine, brought together a number of statistics calculated to show the effect of different methods of treating typhoid fever upon the frequency of relapses. According to his figures, relapses occurred more frequently under cold-water treatment than when indifferent or inactive drugs only were employed. Still more frequently did relapses seem to occur when large doses of quinine—thirty grains per diem—were combined with the cold-water treatment. When large doses of antipyrin, thallin, and acetanilide were substituted for those of quinine, the results as far as relapses are concerned were even worse. There is, however, this to be said, that in Dr. Pasternatski's experience none of the relapses proved fatal, or indeed left any permanent ill effects.

THE LATE DR. LUSH, J.P.

WE regret to have to record the death of Dr. Lush, of Redcliffe-square, S.W. In early professional life Dr. Lush practised at Salisbury, in which town he was to the front in sanitary and other public questions. He did good service especially in the epidemics of cholera in 1849 and 1853, making them an argument for sanitary improvements. Dr. Lush has not been much before the profession for the last few years, during which his health has been greatly impaired. He was the subject of angina pectoris. But his quiet and good nature was in his favour, and at the time of his somewhat sudden death on the 4th inst. he was at St. Leonards. Prior to his retirement from the representation of Salisbury in 1880 his name was constantly before the profession in connexion with questions before Parliament which had more or less of a medical bearing. He took deep interest in medical reform, and was one of the members who endorsed what is known as THE LANCET Bill. He was a member of the select committee which sat on medical reform questions. Dr. Lush likewise took a deep interest in Poor-law questions, also in legislation affecting lunatics and asylums for their care, viewing such subjects rather, perhaps, from the private asylum standpoint, as might be expected from his former connexion with Fisherton House, Salisbury. In 1875 Dr. Lush made a most effective speech in the House of Commons in support of the claims of the army medical officers. He was President of the Medico-Psychological Association in 1879. Dr. Lush was a Justice of the Peace for Wiltshire. The medical profession lost one of its best friends when he retired from Parliament, where his courtesy and his knowledge of men and medicine were most valuable. Dr. Lush was a graduate of St. Andrews University.

BANK NOTES AND INFECTION.

A CONTEMPORARY directs attention to a point of some sanitary interest in connexion with the use of a paper currency—namely, the transference of infectious disease by this means. He discourses with somewhat alarming realism on the mischievous power possessed by the dirty notes for small sums which are common in some foreign countries. In a like strain he deals with the well-thumbed £1 notes so familiar in the sister kingdom of Scotland. Greasy, discoloured, and old, he seems to trace them passing from hand to hand and class to class, avoiding no form of illness but escaping all measures of disinfection. The question thus opened is indeed to some extent a practical one, and there certainly is, from the medical standpoint, more to be said in favour of a frequent issue of new notes than of the continued circulation of old and dirty ones. The velvet softness of a well-used note is familiar to many of us, and it suggests the distinct advantage of using in the exchange of money some smooth and crisp form of paper upon which the germs of disease would be less likely to establish themselves. No form of paper money can of course be purged from all such injurious influences, but there is no doubt that cleanliness even in this matter is in keeping with sanitary rule.

HOSPITAL LETTERS AND THE CHARITY ORGANISATION SOCIETY.

AN evening contemporary inserts the views of a correspondent who raises a question as to the desirability of subscribers to hospitals complying with a request of the Charity Organisation Society to be supplied with hospital letters. If the Charity Organisation Society wants letters, we think it should pay an equivalent sum for them. There are possibly some people who feel unequal to the exercise of judgment in giving hospital letters, and who may rid themselves of responsibility by handing them over to the Society in question. But surely there are not many such, and it is highly desirable that persons who are kind enough to subscribe to hospitals should accept the whole responsibility of using the letters which they have to give away.

IMPLANTATION OF TEETH.

THE operation of implantation of teeth introduced in America by Dr. Younger, which consists in drilling an artificial socket in the alveolus and inserting therein a natural tooth, has not met with anything like that success which its advocates expected. When commenting on this operation last year we expressed the opinion that the roots would gradually undergo absorption, just as do ivory pegs embedded in bone, and that is exactly what does happen. After a year or two in successful (?) cases the teeth gradually loosen, and, causing trouble, have to be removed. Upon examination the root is found perhaps one-third reduced in size, the cementum in parts completely removed, and the denture excavated out into bays and pits. Microscopical sections of one shown at the New York Odontological Society by Professors Heitzmann and Bödecker are described. "An oblique section showed canaliculi with shrivelled dentinal fibres in them. In these bays there were a number of features worthy of attention. There we saw medullary corpuscles, and the so-called giant cells; and there we saw granulation tissues, myxomatous and fibrous connective tissue penetrating the bays, which were supplied

with a certain number of newly formed bloodvessels. We found here an explanation of the fact that an implanted tooth may be firmly fixed in its newly formed socket; that is, that the granulation tissue had grown into the bays." Even if the tooth should do work for four or five years, which in some exceptional cases it may do, the benefit of the operation is very doubtful.

THE BONN ANTHROPOLOGICAL CONGRESS.

A CORRESPONDENT under date of August 3rd writes:—"Everything promises for this important gathering a success equal to that of the most favoured of its predecessors. The communications on the subject matter before the Congress will be heard and discussed in the Hall of the Reading and Recreation Society every forenoon, and excursions will be made every afternoon to the Siebengebirge, Cologne, and Remagen: at the last-named locality Roman tombs will be opened. At Cologne the possessors of private collections will hold, in honour of the Congress, an exhibition of their most precious treasures in the Walraff Museum, and on the closing day of the sittings (the 9th inst.) there will be at 10.15 P.M., on the return journey by steamer from Rolandseck, an illumination of the banks of the Rhine, in which the chief riverside residents will loyally co-operate. The presence and participation of Professor Virchow at the Congress would alone invest the proceedings with special interest."

OXYGEN AS A REMEDY.

"WITHOUT oxygen no life" is in some respects a more scientific aphorism than the famous dictum of Moleschott, "Without phosphorus no thought." A contemporary remarks that General Sheridan's illness will be noteworthy for the hard fight made by his doctors against the disease by means of oxygen. Over and over again, when the suffocative paroxysms which seized the General about six weeks ago came on, and he all but expired, a bag of oxygen placed over his face kept life in him, and enabled him to fight the dread foe. It is not often that oxygen proves itself so formidable an antagonist to death, and, though extensively employed after its first discovery, and at the time vaunted as a life-saving remedy, oxygen has not really maintained a high position as a therapeutic agent. It is now in some hospitals and by a few physicians employed to carry patients through attacks of threatened suffocation, but rarely with any but a transient success. In some cases of extensive bronchitis and pneumonia it has seemed to turn the scale in the patient's favour. Some therapeutists have thought that its chief value lies in the constant admixture with it of ozone—a molecular modification of oxygen.

POPULAR MEDICINE.

ENDEAVOURS to teach non-professional persons how to assure their own health are justifiable only to the extent that they are logical. It is quite rational to inculcate main principles of sanitation, such as are illustrated in various nursing duties, in household ventilation, in the disinfection of rooms, and other similar offices. Nor are such cardinal points of practice as come under the convenient phrase "first aid to the injured" incapable of transference on occasion to intelligent laymen, though in any such case a certain basis of technical training is necessary. When, however, we come to deal with medical treatment proper, we take up quite a different position. Some would have it that this is not so, and, with a lavish extravagance of judgment or of principle, would try to show that after a short preparatory and purely theoretical introduction to the structure and actions of his body a very tyro may follow the details of a complicated pathology, may diagnose and even treat diseases of whose mere meaning he has but a hazy notion. Of late a variety of handbooks and magazines have issued from the press charged with the means of such partial instruction. Their character and purpose is obviously irrational, and consequently dangerous, and it is our duty to make a serious protest against any attempt to treat a supposed illness by such imperfect light as their pages afford.

AN UNQUALIFIED PRACTITIONER AT NOTTING-HILL FINED.

THE Medical Alliance Association has successfully prosecuted Francis Reid Walsh, of Holland-road, Notting-hill, for falsely pretending to be a registered medical practitioner. On one occasion he said that he was a doctor and lost his diploma; on another, that he was about to sell the dispensary, and had that morning received his diploma from Edinburgh. Mr. C. J. C. Pridham, who prosecuted, showed that the defendant was not on the Register. The defendant attempted no further defence than that he had opened the dispensary on the understanding that a medical man would join him. Mr. Curtis Bennett, at Hammersmith police-court, said the Medical Act of 1858 was a most beneficent one, and fined the defendant £20, with three guineas costs.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THE Committee of Arrangements of this Congress announce that matters are now so far advanced as to assure the success of the first triennial session, which is to be held in the City of Washington on Sept. 18th, 19th, and 20th. The American Ophthalmological Association and the American Otological Association, in addition to the numerous societies whose preliminary programmes have been issued, will also take part in the Congress, which many distinguished European physicians and surgeons have promised to attend.

METROPOLITAN HOSPITAL SUNDAY FUND.

IN reference to complaints which have been presented to us with respect to the apparent delay in our publication of the result of the awards made by the Distribution Committee, we may explain that the information referred to was given by us as early as was compatible with an honourable adherence to the implied regulations governing such publication.

FOREIGN UNIVERSITY INTELLIGENCE.

Bahia.—Dr. Cardoso de Andrade has been appointed Professor of Botany and Medical Zoology.

Barcelona.—Dr. Don Iranzo has been appointed Professor of Children's Diseases.

Berlin.—Professor Gerhardt, who holds the chair of Internal Medicine, has been elected Rector Magnificus of the University. The last year that this post was held by a Professor of the Medical Faculty was 1882, when Professor Du Bois Reymond was elected. The name of Professor Virchow was brought forward, together with that of Professor Gerhardt, but the latter obtained the larger number of votes. The new Dean of the Medical Faculty will be Dr. Waldeyer, Professor of Normal Anatomy.

Breslau.—Dr. Eduard Kaufmann has been recognised as *privat docent* in Anatomy.

Cracow.—Professor Witkowski of Lemburg has been appointed to the chair of Physics.

Granada.—Dr. Don Martinez Vargas has been appointed Professor of Children's Diseases.

Kharkoff.—The late Professor Lashkevich bequeathed about £2000 to the University for the purpose of founding a Laboratory for Experimental Pathology and Clinical Therapeutics.

Leyden.—Dr. A. Nijkamp has been recognised as *privat docent* in Laryngology and Rhinology.

Marseilles.—Professors Chapplain and Villeneuve have been permitted to exchange chairs, the former taking Operative Surgery and the latter Clinical Surgery.

St. Petersburg.—An analytical department is about to be established in connexion with the hygienic laboratory of the Military Medical Academy, under the charge of the assistant to the Professor of Hygiene, for the detection of adulterations in goods sold in the market.

Valencia.—Dr. Don Gomez Ferrer has been appointed Professor of Children's Diseases.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following eminent foreign medical men are announced:—Professor Paul Langerhans, formerly Prosector in the University of Freiburg, of phthisis, in Funchal, Madeira, at the age of thirty-nine. Dr. Langerhans was a pupil of Virchow's, and published many papers on anatomy, histology, and pathological anatomy. He had travelled in Syria and Palestine with Heinrich Kiepert, and there studied leprosy, and made a number of skull measurements of the different races inhabiting that part of the world. Since 1875 he had been obliged to live in Madeira because of his health, but he was by no means idle, for he published several works and papers, including a handbook to Madeira and researches on leprosy and phthisis. As to the latter affection, he did not at all believe in its infectious nature, and he wrote several articles combating the views of Professor Robert Koch on this subject.—Dr. Johann Dlauhy, formerly Professor of State Medicine in Vienna, whose career is sketched in another column.—Dr. D. Serapio Arteaga, Professor of Clinical Midwifery in the Cuban University of Havana.

FROM the report on the condition of the metropolitan water supply during the month of June, by the examiner appointed under the Metropolis Water Act, 1871, it appears that the Thames water sent out by the Chelsea, West Middlesex, Southwark, Grand Junction, and Lambeth Companies exhibited a further reduction in the proportion of contained organic matter, which was unusually small in all the samples examined. Of the water principally drawn from the Lee that distributed by the New River Company contained less, and that by the East London Company slightly more, organic matter than the Thames supplies. All the samples were clear and bright.

DR. FRANZ HOFMANN, Professor of Experimental Hygiene and Director of the Hygienic Institute in Leipsic University, has just been chosen Rector of that seat of learning. There is no higher name in continental state medicine than that of Professor Hofmann, as all who remember the greeting accorded him at the great Vienna Congress of last year will understand; and the German journals, professional and lay, are hailing his election as proof that public sanitation is becoming daily more prized in the great centres of scientific education.

A CONGRESS of Polish medical men and scientists has just been held at Lemberg. The attendance was very numerous, about 500 members being present.

INFECTIOUS HOSPITAL FOR HERTFORD AND NEIGHBOURHOOD.—The governors of the Hertford General Infirmary held a special meeting on the 2nd inst. to consider a proposal to erect a hospital for infectious cases for the neighbourhood in connexion with the infirmary. After some discussion it was unanimously resolved: "That it is desirable a hospital for such cases should be erected for the neighbourhood in connexion with the infirmary." Lord Cowper had intimated that he would give a site.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING.

Held in Glasgow on August 7th, 8th, 9th, 10th, and 11th.

THE first day of the meeting (Tuesday, Aug. 7th) was by no means favourable as regards weather; a dull grey sky and a drizzling rain prevailed during the greater part of it. From an early hour members were arriving at the University to enter their names, and from their numbers there seemed every prospect of a large and successful gathering. The whole of the fine range of the University buildings is placed at the disposal of the Association, the class rooms being set apart for the sectional meetings, and the large Bute Hall for the general meetings. The extent of the buildings has also allowed of the annual museum being held under the same roof. The antiquity of the exhibition, to which members of the Association have been admitted on a very small charge, also enhances the attractions of the site of the meeting.

After a meeting of the Council at 9.30 A.M., the first general meeting was held at 11.30 A.M. on the 7th. Dr. Banks of Dublin, the retiring President, took the chair, who in a few words congratulated the Association upon its growing prosperity and influence, and handed over his office to Prof. W. T. Gairdner. After a formal vote of thanks had been moved and carried to Dr. Banks for his conduct as president, the report of the Council was presented by Dr. Bridgwater, President of Council, and the financial statement by Dr. Holman, the Treasurer. Dr. Bridgwater, in moving the adoption of the report, alluded to the extension of the branches of the Association in the colonies, and mentioned that applications to four branches had been received from Malta and Tasmania. The roll of members now reached 12,425, the number of new members joining during the past year being nearly 1000. The report was adopted *nem con.*

Mr. E. HART, as chairman of the Parliamentary Bills Committee, moved the adoption of that committee's report. He stated that at the instance of the committee, the Pharmacy Act Amendment Bill had been amended so as in no way to infringe upon the interests of the medical profession; and he referred at some length to the steps which had been taken with regard to the question of relative rank of army medical officers. Referring to other matters in the report, he stated that through the exertions of the committee two important amendments regarding sanitary administration had been introduced into the Local Government Bill—viz., with reference to the areas of sanitary departments and the remuneration of medical officers of health. These amendments embodied principles for which the Association had contended during thirty years, through such men as Rumsey, Acland, Stokes, Farr, Sibson, Michael, and others. He concluded by thanking those members of the House of Commons, such as Sir W. Foster, Dr. Farquharson, and Dr. Cameron, who had spared no pains in forwarding the views of the committee in Parliament.

Dr. FARQUHARSON, M.P., seconded the adoption of the report, and expressed his opinion of the value of the work done by the Parliamentary Bills Committee in keeping the Government informed of the opinion of the profession. As regards the relative rank question, he advised that it should at present be no further pushed, since in the coming session there would no doubt be a very determined attack made upon the Army Medical Department in support of retrenchment.

Surgeon-Major INCE humorously supported the motion, in the course of which he expressed the opinion that sanitation was but little understood, and should be confined to a few highly trained men.

Dr. FITZPATRICK warmly attacked the committee for having devoted so much time to the grievances of army medical officers, who, he maintained, were infinitely better off than general practitioners. He also referred to the compulsory notification of diseases, and accused Mr. G. W. Hastings of sparing no pains to "forge the fetters" which would bind medical men by restrictive legislation.

Mr. HUSBAND supported the action of the committee,

and Dr. ALDERSON deplored that so little attention had been bestowed upon questions of much greater importance to the profession than that of "relative rank."

The report was then adopted.

Dr. LONG FOX moved, and Dr. EASTWOOD seconded, the adoption of the report on the Inebriates Legislation Committee.

Professor MCKENDRICK, in moving the adoption of the report of the Scientific Grants Committee, expressed the opinion that institutions should be endowed rather than individuals; but he spoke highly of the kind of work which had been carried on by those who had received grants from the universities.

Dr. MCVAIL seconded the motion, which was adopted.

The report of the Collective Investigation Committee was then adopted, on the motion of Dr. A. Carpenter, seconded by Dr. Cuming, Dr. Carpenter stating that this would probably be the last time that the motion would be made, since the committee had resolved to terminate its labours.

At 3.30 P.M. the Cathedral was crowded with a large congregation, who were repaid for their attendance by hearing a very remarkable and powerful discourse by Principal Caird. The text was Romans xi., 36, and the whole sermon was directed to an exposition and refutation of the notion that pure materialism was in itself sufficient to sustain the universe. The absolute fairness and fulness with which the learned divine stated the materialistic position was not the least striking feature of his address, which terminated by a statement of two objections "absolutely fatal" to the materialistic theory of the relation of matter and life. It was, he showed, in irreconcilable opposition to the very law of the conservation of energy on which it professed to rest, and, moreover, it begged the whole question at issue.

In the evening a large gathering of members took place in the Bute Hall of the University to hear the Presidential address of Professor Gairdner. On its conclusion a vote of thanks was proposed by Sir Andrew Clark, who spoke in warm and eulogistic terms of the President, and seconded by the Lord Provost of Glasgow. The motion was carried by acclamation. Only a few members remained to debate a resolution which was moved by Dr. Waters and seconded by Dr. Banks. The resolution, which was carried unanimously, ran as follows:—"That the Council of the Association be desired to place before the General Medical Council the following resolution passed at the annual meeting held in Dublin in 1887: 'That the Association is of opinion that the diplomas of the Irish and Scottish universities and other corporations should possess the same privileges in respect of public appointments that are enjoyed by the diplomas of the other divisions of the kingdom,' with the view of obtaining the opinion of the General Council on the subject."

The second general meeting took place on Wednesday afternoon. The President announced that the Council had received an invitation from Leeds for the Association to hold the meeting of 1889 in that city; and, on the motion of Dr. Bridgwater (President of the Council), seconded by Mr. Husband, it was unanimously resolved to accept the invitation, and to elect Mr. Wheelhouse as President. Mr. Wheelhouse responded on behalf of the profession in Leeds.

Dr. Clifford Allbutt then delivered the Address in Medicine, his subject being Comparative Nosology. The address was closely followed by a large audience, and a hearty vote of thanks was accorded to Dr. Allbutt, on the motion of Dr. McCall Anderson, seconded by Sir Dyce Duckworth, and supported by the President.

Only a small number remained to hear Dr. Fitzpatrick move "That every representative attending a Council meeting be paid first-class railway fares, to and from, out of the funds of the Association." He contended that the representatives of the Branches (which formed the "bone and sinew" of the Association) were not mere delegates, and that they should be put on a similar footing as regards members of the General Medical Council. Dr. W. Carter seconded the motion, which was opposed by Surgeon-Major Ince, Mr. Sibley, Mr. Holman (the treasurer), and Mr. Husband, and the previous question was moved and carried.

In the evening a conversazione, given by the Principal and Professors of the University, took place in the Bute Hall.

The third general meeting was held on Thursday. The Address in Surgery was delivered by Sir G. Macleod, after which the gold medal of the Association was presented to Mr. Fray Ormrod for his services at the recent colliery accident at Workington. The public dinner was held in the evening.

THE SECTIONS.

MEDICINE.

Dr. MCCALL ANDERSON, President of the Section, took the chair shortly after 10.30 A.M. There was a very large attendance drawn together to hear the important discussion upon "The Diagnosis and Treatment of Syphilitic Disease of the Nervous System." After a few preliminary words of thanks, the President proceeded to open the discussion in an exhaustive address. He said at the present day it was sometimes argued that syphilis had become a mild disease, that serious visceral complications, especially of the nervous system, were becoming rare, and that mercury should be reserved for the graver forms of the malady. His experience was entirely opposed to such ideas, and hence he had thought the subject opportune for discussion at that gathering. He feared the milder forms of syphilis, being often treated cavalierly, were peculiarly apt to give rise ultimately to grave visceral mischief, the nervous system suffering to a notable degree. He would first state the general grounds for concluding that a lesion of the nervous system was of syphilitic origin. 1. A history of syphilitic infection. Negative evidence on this subject was of course worthless, patients sometimes concealing, and at other times being really ignorant of, the source of their malady. The longer the disease lay dormant without eradication, the more prone was it to affect the viscera. It should be borne in mind that the nervous system might suffer as the consequence of hereditary syphilis. 2. The discovery of other evidences of syphilis in the skin, mucous membranes, &c. We should look for tubercular and serpiginous eruptions, deep-seated ulceration of throat or tongue, periostitis, amyloid disease without other obvious cause, scars upon the penis, scars at the angle of the mouth or on the palate, perforation of septum nasi, &c. 3. The presence of pains in the bones, head, &c., especially if severe at night, and disappearing by day. 4. The dirty, earthy, sallow complexion so commonly seen as the consequence of syphilis. 5. The age and sex of the patient. These affections generally occurred at or before middle life. He agreed with Buzzard that hemiplegia or paraplegia not associated with kidney disease or embolism occurring in young persons was in nineteen out of twenty cases syphilitic in origin. The male sex was most frequently affected, the proportion in his experience having been twenty males to four females. 6. Occupation. Brain workers seem to suffer most. 7. The multiplicity of the lesions. 8. The variability of the symptoms. 9. The presence of certain fundamental types or groupings of symptoms. 10. The presence of eye symptoms; ophthalmoplegia externa and double iritis were common. 11. Absence of syphilis of the other viscera. 12. The results of treatment. As regards the treatment of these cases, he urged the free use of antisyphilitic remedies. Some of his most brilliant results had been due to the use of mercury in the later stages, even when iodide of potassium had failed. He preferred inunction and hypodermic injection. For the former he used the mercurial oleate ointment of Shoemaker, and for the latter a solution of the perchloride of mercury in the proportion of four grains to the ounce of distilled water.

The discussion was continued by Dr. DAVID DRUMMOND (Newcastle-on-Tyne), who approached the subject from the pathological point of view. There were three classes of gross syphilitic lesions of the brain: 1. Pachymeningitis. 2. Vascular lesions. 3. Gummata. The last was the most frequent. He attached importance to the association of headache, insomnia, and irritability of temper, but thought that too much attention had been devoted to headache.

Dr. GRAINGER STEWART (Edinburgh) showed a patient suffering from most remarkable symptoms, which he thought were due to cerebral syphilis. Whenever the patient closed her eyes or was otherwise withdrawn from light, she instantly had a peculiar fit, characterised by spasm of the glottis, turning up of the eyeballs, complete anæsthesia, and unconsciousness. She would fall if not supported. These fits would last a few seconds, and then she recovered, without knowledge of what had passed. A fit of this kind happened each night when she was falling asleep.

Dr. ROSS (Manchester) had never seen any case parallel to the one shown by Dr. Stewart. As regards headache, he agreed with Dr. Drummond that too much importance might be attached to it; but, nevertheless, it was true that this symptom nearly always preceded outbursts of cerebral syphilis. He proceeded to demonstrate the usual sites of syphilitic deposit in the brain. In the cord the region usually affected was that portion on a level with the junction of the lumbar and dorsal regions. There was paralysis of the bladder and of the sexual function, with exaggeration of the tendon reflexes.

Dr. CLOUSTON (Edinburgh) confined himself to the mental relations of cerebral syphilis. There were four classes of cases. 1. Short delirium during the second stage, very like delirium of acute fevers. It was best marked where there was strong mental and nervous heredity, and was transient, slight, and curable. 2. Mental irritation, delusional suspicions, and unconscious mania. These were due to rapidly developing syphiloma, and brain necrosis extending upwards. The patient usually died in a fortnight. 3. In a third class there was a subtle, slow arteritis, with consequent starvation of certain areas of the brain cortex. This caused immorality, impulsive action, delusions, and finally dementia. 4. An indeterminate class produced by disease of the membranes, bones, &c. He demurred to Dr. Hughlings Jackson's view that the true nerve substance was never directly affected.

Dr. ALEX. ROBERTSON (Glasgow) advocated percussion of the skull as a help in diagnosis. He set a high value on repeated blistering.

Dr. DRYSDALE (London) thought that at least four-fifths of the cases of hemiplegia in adults under forty were probably syphilitic, and that a like proportion held regarding paralysis of the ocular muscles. Brain work and alcohol were predisposing causes. The headache was usually deep-seated.

Dr. COGHILL (Ventnor) related a remarkable case in which there was apparent intolerance of the ordinary doses of iodide of potassium, but in which very large doses were well borne, and resulted in complete recovery.

Dr. ZIEMSSEN (Wiesbaden) spoke hopefully of the prognosis in these cases, and urged the free employment of inunction.

Dr. BYROM BRAMWELL (Edinburgh) attached importance to the multiplicity of symptoms, the fact that the cortex was the seat of election, and the age and sex of the patient. Headache might be absent where the vessels alone were affected. Percussion of the skull was helpful.

Dr. STRETCH DOWSE (London) thought that syphilitic disease of the vaso-motor system of nerves was too much overlooked, and that general paralysis of the insane was often syphilitic. He advised the giving of large doses of iodide, well diluted, before meals.

On Thursday Dr. Byrom Bramwell and Dr. Milne Murray, gave a demonstration of their graphic method of recording the exact time relations of cardiac sounds and murmurs. Dr. Bramwell claimed that his method excluded the psychical element of uncertainty.

Dr. THEODORE WILLIAMS thought the method very nearly perfect. He had seen cases in which a presystolic murmur seemed to pass into a systolic.

Dr. OLIVER thought by this method that murmurs were recorded rather late.

Dr. Macfee and Dr. McGregor Robertson also spoke.

Dr. BRAMWELL, in reply, said he was pursuing his investigations, but it would be premature to assert that his method would succeed in throwing much new light upon cardiac disease.

Dr. MCLACHLAN (Dumbarton) showed a patient suffering from Addison's disease, and read a paper giving the clinical details of the case.

Dr. STRACHAN (Dollar) gave the notes of a case of Pernicious Anæmia successfully treated by arsenic. Small doses of the drug were given.

Dr. AFFLECK (Edinburgh) thought that the nomenclature of the disease required alteration. Cases presenting all the essential features of pernicious anæmia undoubtedly recovered. Arsenic was most useful. He advised the addition of iron and peptonised foods.

Dr. BOYD thought that in many cases of dilatation of the stomach symptoms closely resembling those of pernicious anæmia appeared.

The PRESIDENT thought that many cases of so-called pernicious anæmia were really cases of cancer. In genuine pernicious anæmia, there was no doubt arsenic was the remedy; that it should be given early, and, if necessary, by subcutaneous injection.

Dr. AFFLECK (Edinburgh) read the notes of two cases of Raynaud's Disease. Both occurred in young girls, and in both there was a history of exposure to cold. In the first case amputation of one foot and some toes of the other foot was necessary; in the second case, where the hands were affected, there seemed to be some congenital defect of the arteries. Massage and electricity were tried in this case without benefit.

Dr. DRINKWATER (Sunderland) thought chrysophanic acid by far the best remedy.

Dr. THOMAS OLIVER (Newcastle-on-Tyne) read a paper upon Malformations of the Heart. He showed that a patent foramen ovale might be present and cause no cyanosis until some pulmonary complication arose.

Dr. ORLANDO JONES (Harrogate) read a paper upon a New Remedy for some forms of Heart Disease. The drug he recommended was Cactus grandiflorus, which he had found especially useful in asthenic cardiac conditions. He used a tincture of a strength of one in twenty, the dose being from less than one minim to ten minims.

Dr. D. W. FINLAY (London) read a paper upon Bronchiectasis treated by Incision and Drainage. He detailed a case in which he thought it desirable to give the patient the chance which surgical interference might afford. Incision was therefore performed, and much fetid pus evacuated, but the patient sank. It was remarkable that several of the fatal cases had died from cerebral abscess.

SURGERY.

Dr. GEORGE BUCHANAN opened the Section by a few words of welcome.

Mr. T. PRIDGIN TEALE (Leeds) opened a discussion on "The Surgical Treatment of Abscess of the Lung and Empyema." He detailed four cases under his own care of abscess of the lung opening into the pleura. Two of these were cured by free incision and drainage; the others died. He also reported two successful cases under the care of Mr. Hartley (Leeds) and Dr. Davies (Swainton). Mr. Teale concluded: 1. That we are losing our fear of exposing the pleura. 2. The evil of admission of air into the pleural cavity is not the mere exposure of the pleural surface to the air, is not that the lung collapses by the mere admission of air, but is that, where there is a fairly healthy lung and pleura, the inrush of air reduces seriously the mechanical power of the thoracic wall over respiration. 3. That in such cases some method of closing the wound to the entrance of air, whilst allowing adequate drainage, must be adopted. 4. That the region of the diaphragm is a situation in which abscesses amenable to surgical treatment frequently occur. 5. Such abscesses can be most safely attacked through the lower angle of the thorax, provided there be dulness at the seat of puncture. 6. As to washing out the cavity of a large pleural, pulmonary, or hepatic abscess cavity, it is probable that antiseptic washing is of value in the early period while the fluid is offensive, but afterwards it tends to disturb the comfort of the patients, and is unnecessary if drainage is effective. 7. As regards excision of a portion of rib, Mr. Teale had no personal experience, but thought it should be reserved for special and exceptional cases.

Sir SPENCER WELLS reported the case of a patient admitted under his care in 1843 to Malta Hospital, apparently dying of phthisis. An abscess had formed in the right axilla. This was opened, and air and pus escaped; it continued open for a long time, but the patient recovered, and is still, after forty years, alive and well. In reporting this case forty years ago, Sir Spencer Wells advocated the incision of the lung in cases of abscess. He still supported this view, and looked hopefully on the operations of incision or removal of parts of the lung in gangrene, and on removal of parts of the ribs in exceptional cases.

Mr. JESSOP (Leeds) stated that the dangers of opening the pleural cavity were more imaginary than real. On two occasions he had opened the pleural cavity accidentally; air entered freely, and the lung maintained its position, size, and shape without sign of collapse. Both cases did well.

Dr. WARD COUSINS (Portsmouth) referred to the difficulties of re-expansion of the lung and closure of the cavity of the pleura in cases of empyema. He advocated free and early incision with drainage. This was especially successful in cases of young children. In adults he did not use drainage tubes after the first few weeks, and he kept the incision open by dilating it when necessary with india-rubber bags. He also recommended the excision of a

portion of the rib in cases of empyema with pulmonary fistulæ and discharge.

Dr. JOHN DUNCAN (Edinburgh) thought thoracic abscess should be treated like all other abscesses, by opening and drainage. Treatment will vary according to class of case. In children simple opening and drainage will suffice. In adults, in early cases, drainage only is necessary; in medium cases, suction is an advantage, and Dr. Duncan showed an apparatus for the purpose; in old cases where death must occur from amyloid disease, excision of a portion of the rib is required. Dr. Duncan reported four successful cases from this operation.

Mr. WINKFIELD (Oxford) reported a successful case of empyema, in which a portion of rib was removed, and a lost drainage tube recovered from the pleural cavity.

Dr. WEBB (Wirksworth), advocated free incisions, frequent washing, and adequate drainage as the result of a large experience.

Mr. JORDAN LLOYD (Birmingham) referred to two cases in which separate punctures made at the same time yielded serum and fetid pus. These cases were supposed to be interlobular empyemata rather than intra-pulmonary abscesses. He advocated freedom of drainage, and thought that could often be obtained by increasing the length of an incision rather than by increasing the breadth of a tube.

Dr. WARDROP GRIFFITH (Leeds) deprecated the habit of excision of a portion of a rib as part of a primary operation, and maintained that satisfactory drainage was obtained in the great majority of cases by simple incision and insertion of a tube. He afterwards discussed the manner of re-expansion of the lung after operation.

Mr. EDMUND OWEN advocated the routine treatment of incision, with resection of about half an inch of rib, after which drainage was always efficient. Tubes frequently slipped into the pleural cavity because they were badly fixed. The end of a large tube should be split into four, passed through a hole in a piece of mackintosh cloth, and the ends stitched with silver wire. Mr. Owen then described a case of hydatid of liver evacuated by a deliberate attack across the pleural cavity, about the eighth intercostal space, with successful result.

Mr. TEALE then replied. The diagnosis of cases of abscess of lung from empyema was frequently only made by exploration, but was not of supreme importance; free incision, drainage, care, and cleanliness were chief points to be attended to.

Dr. TH. DE VALCOURT (Cannes) then read a paper on the Usefulness of Winter Sea-baths at Cannes in cases of Scrofulous Disease.

Dr. MURPHY (Sunderland) showed a patient on whom he had performed Gastrostomy for complete closure of Œsophagus eleven months ago. The patient was well and strong, and swallowed comfortably.

Dr. CARMICHAEL (Barrow-in-Furness) read notes of a successful case of Gastrostomy, the patient living six months after the operation, and dying of pneumonia. The stomach was shown.

Mr. BENTON (London) read a paper on the Treatment of Stricture of the Rectum by Electrolysis.

Dr. DUNCAN (Edinburgh) read a paper on the Value of Electrolysis in Angioma and Goitre, and reported numerous successful cases.

Mr. EDMUND OWEN reported the case of a boy of nine years on whom he had operated for intracranial hæmorrhage successfully.

Dr. BEAVEN RAKE (Trinidad) then narrated his experience of Nerve-stretching in cases of Leprosy. He had operated in 100 cases, and found ulceration and pain relieved thereby; but as regards anæsthesia, tuberculation, and necrosis, there was no improvement.

Owing to the shortness of time there was no discussion on any of the papers read.

On Thursday, Sir ANDREW CLARK described a case of catheter fever that he had watched from beginning to end, and considered interesting as throwing light on the origin of fever. It began with irritability of the bladder and slight oxaluria, but the urine was otherwise healthy. To relieve irritability the patient introduced a clean soft catheter, oiled with carbolic oil of unknown age and unknown character, and removed one ounce of urine. Next morning he suffered much from malaise, and eighteen hours after the introduction of the catheter he had a rigor. The temperature then rose to 105°; pulse 116; respiration quick and laborious; and he passed a restless night. Next morning he was apparently in an advanced typhoid condition, with frequent desire to micturate; urine clear, but albuminous. In the afternoon he had a second rigor; temperature rose to over 105°. The condition was most alarming; bladder extremely irritable; urine sandy and turbid. Before the introduction of the catheter there were no symptoms of renal disease, and his catheter fever was perhaps a septic fever. To determine this question the carbolic oil was examined by cultivation experiments, but without result. To prove that the oil was capable of preventing septic infection another experiment was made with a drop of decomposing urine, with immediate development of fungi. This fever was not, therefore, due to septic infection. Was it due to pyæmia? No; the characteristic symptoms were absent. Nor was it due to injury. He was obliged to fall back on the explanation originally given at the meeting in Edinburgh. (1) Local irritation, felt or unfelt, on the introduction of the catheter, provocative of (2) reflex discharges, causing (3) dystrophic changes in the bladder and urethra, and (4) charging of the blood with excrementitious material, and consequent development of fever; (5) appearance and effects of bacteria.

OBSTETRIC MEDICINE.

The PRESIDENT opened the meeting by an address dealing with the history of obstetric art in Scotland, Ireland, and England. He then noticed recent improvements in obstetrics, especially in regard to instrumental interference. He showed two pairs of forceps; one for low pelvic cases; the other, a powerful instrument, for high and difficult cases. He also adverted to cases in which it is now fashionable to remove the uterine appendages, advocating other and milder methods in preference. Some reference was made to the treatment of uterine fibromata by electricity, and support was given to the method. Dr. Parvin of Philadelphia proposed, and Dr. Halliday Croom seconded, a vote of thanks to the President for his address.

Professor SIMPSON (Edinburgh) then opened the discussion on Intra-uterine Death, its pathology and preventive treatment. He passed in review all the known causes, making suggestion as to their relative frequency and importance, and advocating strongly the continuous use of chlorate of potash, and, where syphilis is suspected, the treatment of the husband rather than the wife.

Dr. R. BARNES (London) advised the induction of premature labour whenever albuminuria showed itself. He called attention to the distinction between fatty degeneration and fatty metamorphosis. He thought that in women who are too young or too weak to bear children hæmorrhage into the placenta was very apt to take place.

Dr. BYERS (Belfast) urged McClintock's method of mixing iron with chlorate of potash, especially where there was no history of syphilis, and in late pregnancy. He believed that obstinate constipation was at the root of certain cases of abortion.

Dr. FORDYCE BARKER (New York) believed that many cases of abortion were due to defective growth of the placenta, not a sufficient amount of blood going to the uterus, the patient rather getting stout. He advised spare diet and free exercise, and cited cases in proof of this theory.

Dr. PARVIN (Philadelphia) believed that there is such a thing as simple uterine irritability treatable by drugs, such as viburnum prunifolium, which, he pointed out, was long used by the negro women of the Mississippi before it was introduced into ordinary medical practice.

Dr. WILSON (Baltimore) believed in constipation as a cause; also that many cases were due to prevention of the rising of the uterus in the pelvic cavity.

The discussion was continued by Dr. Aust Lawrence, Dr. Edis, and Dr. A. Routh. Professor Simpson concluded the discussion.

Dr. SAMUEL SLOAN showed his antero-posterior compression forceps, and showed that experiments with contracted pelves and fresh fœtal heads showed that antero-posterior blades were most useful, and detailed cases which seemed to prove this.

Professor STEPHENSON (Aberdeen) believed that compression of the head is a wrong principle on which to go when one wishes to secure a living child.

Professor GILL (Belfast) believed that the child's life should not be so much considered as the safety of the mother, and therefore severe forceps deliveries are not desirable.

Professor HARVEY (Calcutta) argued that force might be safely used as the only alternative to craniotomy.

Dr. W. L. REID (Glasgow) showed a pair of antero-posterior-bladed, and, at the same time, axis-traction forceps, and argued that by getting hold of the head in the oblique diameter, and applying sufficient force to effect delivery, all the room possible was left in the abnormally short diameter for the passage of the fœtal head.

Dr. SLOAN concluded the discussion by arguing that compression must take place, and the question is how it can most safely be done in the interests of both mother and child.

Dr. A. ROUTH read a paper on Headaches of Pelvic Origin, showing how in flexions of the uterus the use of an intra-uterine stem completely cured the disease.

Dr. BRAITHWAITE (Leeds) said that by the use of an intra-uterine stem, and increasing the menstrual discharge or straightening the canal, he has relieved severe headaches which had resisted many other forms of treatment.

Dr. AUST LAWRENCE said he had seen cases where the relief of flexions by treatment had cured obstinate headaches.

Professor STEPHENSON then read a paper on the Treatment of Amenorrhœa by Permanganate of Potash. His first results were poor, but after a more lengthened trial he got good results in many cases. He also found that ovarian pain and persistent headaches were often cured by the drug. He believed that cases of menorrhagia are often relieved by permanganate of potash, and that the drug cures the abnormal constitutional conditions which give rise to these diseases. Cases were cited in proof of this statement.

The meeting then adjourned.

PATHOLOGY.

This Section was opened in the Law Class-room on Wednesday by the President, Sir WILLIAM AITKEN. He thanked the Association for this honour conferred upon him, and which he felt to be a compliment to the school at Netley. He referred to his previous connexion with the University of Glasgow as demonstrator of anatomy under the late Professor Allen Thomson. In the name of the Section he made welcome the foreigners present—many of them from long distances. Proceeding then with an address upon the Position of Pathology among the Medical Sciences, Sir William Aitken reminded his hearers of the fact that pathology as a science owed its origin to workers in the physiological field, and that human pathology must also have a basis in comparative pathology, the importance of which department had been insisted upon by Sir James Paget and others. The pathologist must follow in the train of the biologist. As instances of the interdependence of pathology and those sister sciences indicated, there were mentioned the relation between the results of disease and experiment upon different parts of the cortex of the brain. Reference was made, too, to the light thrown upon fatal paralysis of the intestine, due to exposure during operation—e.g., ovariotomy—by the minute anatomy of the parts and by experiments with all sorts of irritants. The recent successes in the surgical treatment of tumours of the brain and spinal cord fully justified the experiments of Ferrier, and afforded an argument for relaxing the restrictions in this country upon experiments on living animals. The greatest advances in pathology during the last thirty years were then discussed: firstly, in relation to the better appreciation of the processes of disease; and, secondly, with regard to the increasing importance attached to combinations of facts producing disease. Under the former heading there were mentioned Virchow's investigations on thrombosis and embolism; the study of variations of blood pressure, specially in connexion with albuminuria and heart disease; the whole question of inflammation, with the digestive power most recently ascribed to leucocytes, in virtue of which they are called phagocytes; the knowledge of the processes associated with fever; and in particular the distinction between high temperature in "fevers" and in nervous lesions, as well as the recent observations of Professor Macalister; the appreciation of the factors connected with local death; also of the nature and extent of degenerative processes, whether in health or disease; the views held from time to time of the processes connected with the formation of new growths; and, lastly, the advance in the understanding of the processes of disease associated with parasitical organisms. On the other hand, with regard to the second heading—the etiological side—much has been learned from the action of poisons as well as from that of ferments. Thus far physiology and pathology were recognised as the basis of scientific medicine, but hitherto physiology had outstripped pathology. Normal physiology, however, could not explain all pathological conditions. There was a large class of diseases left—e.g., the infective diseases are not included in the physiological system of diseases, and still constitute the difficulty of pathological science. They must be considered as having at some period originated *de novo*, and thereafter become autonomous and been communicable by infection only. There might be similar pre-autonomous and autonomous stages for cancer and tubercle. Sore throats were well known at times to increase in severity as they were transmitted from individual to individual until an undoubted diphtheritic form was reached, the occurrence of diphtheria being proved by the subsequent paralysis. There was such an evolution going on as the disease passes between the different individuals, and ultimately we have apparently a different disease. Similarly, no abrupt line could be drawn between Asiatic and milder forms of cholera, all grades of severity being found. So also for puerperal fever and allied conditions. Irregularities from the artificial types of disease were thus so frequently met with that they formed a very important class. The "constitutional diseases" conformed to the biological laws of heredity and environment. They were slowly evolved by the combined action of external and internal influences, and changes when they have occurred are transmitted from one generation to another. Changes in type in the hereditary and specific diseases undoubtedly take place, and are apt to be too little attended to. In pathology and biology it is thus very important to study varieties as well as types, and types vary in disease as well as in species. In disease, as in nature generally, evolution results in new diseases arising, and common disorders may acquire specific qualities; and as the question of biology is the origin of species, so must the question of pathology be the origin of such new varieties or diseases and of such new specificity.

On the motion of Sir ANDREW CLARK a hearty and unanimous vote of thanks was passed to Sir William Aitken for his eloquent address.

Professor EDGAR CROOKSHANK made a communication upon Tubercular Cow's Milk, and another on Anthrax in Swine, of which further abstracts will be given next week.

PUBLIC HEALTH.

The President (Dr. H. D. LITTLEJOHN) opened the discussion upon "Sanitary Legislation." He showed the importance of this section; it brings into relationship the medical man and the practical sanitarian. He next pointed out certain disadvantages in the Burgh Police and Health Bill, such as that the election of a medical officer of health should take place annually. He suggested that he should be removed only by the pleasure of the Board of Supervision, and that the sanitary districts should be enlarged. This would imply such an increase to the salary that the medical officer would be independent of private practice. He also urged that a special certificate should be required for those health officers. As to the notification of infectious diseases, he argued that it was unworkable so long as the medical officer was engaged in private practice. Milk supply, slaughter-houses, and small dwellings are well dealt with in the Act, but the President urged that Scotland required a Local Government Bill for itself, which would grapple with Scottish sanitary legislation. The staff of inspectors must be increased, especially in the large country districts.

Sheriff SPENS differed from the President as to the sanitary provisions in the Burgh Police Act. The great blot in the Scotch system, he thought, was that it is inadequate in the rural districts.

Dr. GLAISTER urged that the areas should be enlarged, so that there be a sufficient population to give an adequate salary to the medical officer.

Dr. HARDESTY made a few remarks.

Dr. CARPENTER moved "That the Public Medical Section of the British Medical Association desires to express its opinion that an amended Public Health Act for Scotland is urgently required, the provisions of which shall apply alike to urban and rural districts." He discussed the various points raised by Dr. Littlejohn, and thought that there

should be a special Minister of Health. The medical officers should be State paid, and under the control of this Minister.

Dr. DUNCAN (Crosshill) held that we should have a differently constituted Board of Supervision for Scotland, which at present does not contain a single sanitary expert. He seconded the resolution of Dr. Carpenter.

Dr. NASMYTH (Fife) expressed an opinion that this resolution should be forwarded to the Secretary of State for Scotland and the Lord-Advocate, and this was unanimously agreed to.

Dr. McVail (Kilmarnock), Dr. Calder (London), Dr. Fitzpatrick (Dublin), and Dr. Graham (Middleton) continued the discussion.

Dr. BRINDLEY (London) read an interesting paper on a Minister of Public Health, in which he advocated a system of medical police, illustrating his remarks by quoting the success of institutions of the kind in Paris and America, and endeavouring to show the great utility of such a system to the people at large as regards sanitation.

Dr. BRUCE (Dingwall) read a paper on a Proposal for Joint Publication of the different Annual Hospital Reports from Scotland. He pointed out that a general collection of statistics would tend to elucidate many points, such as length of stay of patients in hospitals and other matters.

Dr. LITTLEJOHN moved that a committee be appointed to report to the next meeting at Bath the result of a conference with the superintendents of the larger hospitals of Scotland, and this was unanimously agreed to.

Dr. DUNCAN (Glasgow) read a paper on some Researches in the Homes of Hospital Patients, and of Holiday Children, by Dr. Churton (Leeds), who was unavoidably absent.

A discussion followed upon these three papers, to which Dr. J. Francis Sutherland (Glasgow) and Dr. Walker (St. Leonards-on-Sea) contributed.

Surgeon-Major PRINGLE read a paper on Sheffield and Leicester compared in their relation to Vaccination and consequent Small-pox Prevalence. Leicester immunity from small-pox was, he said, due to the rigorous system of isolation carried out. This was purely moral and voluntary, not legal or compulsory. But the only preventive of small-pox was vaccination. The late epidemic in Sheffield, the speaker thought, was due to spurious vaccination, much inert and dangerous lymph being used.

Dr. NORMAN KERR (London) read a paper on Some Risks from Attention to Health and Sanitation. Patients sometimes, he said, kill themselves by undue attention to sanitary details as regards themselves. In the case of children, he said, too much coddling and attention were positively dangerous. The paper was written in a humorous strain, and illustrated by many incidents.

Dr. MCVAIL, speaking of Surgeon Major Pringle's paper, expressed his high admiration of it, but thought that in the case of the Sheffield epidemic we should wait until Dr. Barry's report was issued before we drew conclusions. In Sheffield the mortality was only 10 per cent., in Montreal 30 or 40 per cent. Therefore Dr. McVail thought that there could not have been so much spurious vaccination in Sheffield as Dr. Pringle supposed.

Dr. BRETT (Watford) always made six marks, and used arm-to-arm vaccination.

Dr. PARKER (Liverpool) had vaccinated 30,000 people in twenty years, and had never had a single complaint. Liverpool, he held, is one of the best vaccinated cities in England.

Dr. CAMERON (Huddersfield) thought that probably in Sheffield there was not so much spurious as insufficient vaccination.

On Thursday the proceedings were opened by a discussion on the Communicable Diseases Common to Men and Animals and their Relationships. The President intimated that Dr. Fleming was to have opened the discussion, but unfortunately he was detained by very serious illness. In his absence Principal WALLEY of Edinburgh opened the subject. He said that anthrax was not at the present moment occupying the minds of sanitarians, but it was most deadly and rapidly communicable from animals to man. Legislation in regard to it was difficult. An outbreak of rabies was stated to have occurred in Edinburgh in 1881, which was stamped out in three months, and anthrax might be in like manner stamped out of the whole country in from six to twelve months. The principal malady at present demanding attention was tuberculosis, one of the greatest pests to man and animals. Principal Walley had no hesitation in saying that it was communicable from animals to man and back again from man to animals in every possible shape, by ingestion, inhalation, and direct inoculation. Out of thirteen animals slaughtered in Edinburgh two or three months ago for pleuro-pneumonia six were affected with tuberculosis. Poultry were being slaughtered by this disease in thousands, and, in the speaker's opinion, it might be transmitted by eggs. Much indirect evidence existed of the transmission of tuberculosis from animals to man by the medium of flesh. There was no power in Scotland, nor, to a large extent, in England, to enable any official to take charge of animals exposed in public markets and affected with tuberculosis. Principal Walley concluded by moving—"That the Public Health Section of the Association approves of the action of Government in inquiring by commission into the relationship of bovine and human tuberculosis, and urges that as soon as possible such measures be taken as the report of the commission might show to be advisable, and that copies of this resolution be forwarded to the Prime Minister, Secretary for Scotland, and the Lord Advocate."

Dr. FARQUHARSON, M.P., said that no doubt existed that various diseases—such as anthrax—were transmissible from man to animals, but all were slight compared to tuberculosis. It was now known that the bacillus in a tuberculous animal was the same as that in man, and as the milk of such an animal swarms with the bacilli there seems no reason to doubt that by this medium they were transmitted to the human subject. He (Dr. Farquharson) was afraid that year by year tubercular diseases would become more common in Britain. He had great pleasure in seconding the resolution.

Mr. CROOKSHANK (London) said that glanders, anthrax, and other diseases were transmissible to man, but did not arise independently of the lower animals. Tuberculosis, on the other hand, did. It was very common in this country in pigs, cows, poultry, and other animals. The speaker instanced a case in which a rabbit, fed upon milk from a tuberculous cow, died in two months from tubercular disease of the intestines and mesentery. This infective milk was specially liable to produce tuberculosis in children. Mr. Crookshank also referred to the alleged origin of the human infectious fevers from the cow. As to diphtheria and scarlet fever, he believed that at present we did not know whether or not they were derivable from the cow.

Mr. WILLIAM BROWN, F.R.C.S. (Carlisle), read a paper on the Association of Typhoid Fever with an Infective Fever among Cows. There were cases of typhoid fever at a dairy, and in ten weeks twenty cases occurred, and all the affected individuals had derived their milk supply from the infected dairy. The water supply of the dairy was perfect and pure. There was no history of imported infection, and no antecedent case of typhoid in the immediate neighbourhood could be traced. However, it was ascertained that a febrile disorder, having a striking resemblance to typhoid, had existed among the cows previously, and the assumption was that the disease from which the cows suffered was typhoid fever communicable to man.

Dr. SEATON (St. Thomas's Hospital) believed that milk might be contaminated by human agency.

Dr. EDINGTON (Edinburgh) disbelieved in the theory of Dr. Klein's organism.

Dr. TOMKINS (Leicester) said that there was no direct evidence that tubercular disease could be communicated to man, although he believed it could.

Dr. HIME (Bradford) read a paper on Milk Scarlet Fever, and brought forward instances where scarlet fever was in the house of the dairyman, and yet scarcely any cases of scarlet fever occurred in their neighbourhood, although some of the dairies supplied as much as seventy gallons of milk daily.

Dr. CARPENTER said that, on authority, there was as much as 80 per cent. of the meat sent into the London market affected with tuberculosis. He mentioned the case of a school in which scarlet fever broke out. The school was shut up, and the curious fact remained that, although the infected children whilst peeling mixed freely with the other children who did not go to this school, yet these said children did not contract fever.

Dr. M'FADYEAN (Edinburgh) believed that the connexion of human and bovine tuberculosis had been clearly established.

Dr. M'VAIL (Kilmarnock) believed that the infection was due to bovine and not human contraction.

Principal CAIRD showed that the milk of animals affected with tuberculosis could communicate the disease, and said that he thought that instead of 80 per cent. of infected meat being sold it was more likely but 25 per cent.

Principal MCCALL said he believed that tuberculosis in the animal was more dangerous than the same disease in the human subject. He had very seldom found tuberculosis in slaughtered animals.

Principal WALLEY briefly replied.

Dr. CHRISTIE (Glasgow) read a paper by W. J. Simpson, M.D. (Calcutta), on Cholera and its Fostering Conditions in the Endemic Area. A full description of Calcutta, Howrah, and the suburbs generally was given, dwelling specially on the water supply, the tanks, the drainage, the constitution of the streets, and the sanitary system generally. The remedies suggested were (1) a liberal water supply for Howrah and Calcutta; (2) specially constructed tanks; (3) well-planned streets, good drainage and scavenging, and a well-organised sanitary department.

DISEASES OF CHILDREN.

The proceedings in this Section were opened by an address by the PRESIDENT (Dr. Cheadle), dealing mainly with the necessity for more attention being paid to the training of students in the methods of recognising and treating the diseases of infancy and childhood. He drew special attention to the fact that in almost all the hospitals for diseases of children cases under two years of age are not admitted—that is to say, cases are not admitted, as a rule, at that period of life when the congenital faults of structure and of inherited disease show themselves and are most destructive. In order to put the study of the diseases of children on a proper basis, Dr. Cheadle suggested that it be made compulsory for students to show a competent knowledge in this department, that proper systematic and clinical instruction be given in all medical schools, and that infants under two years be admitted to all the children's hospitals.

After the address had been given, the Section was occupied with a discussion on Diphtheria. This was introduced in an able address by Professor Jacobi of New York, who, in the limited time at his disposal, dwelt mainly on the etiological aspect and on treatment. In regard to the mode of entrance of the poison, he emphasised the importance of the loss of the epithelium covering the mucous membranes; and he dwelt also on the structure of the various mucous membranes as aiding or retarding the absorption of a poison applied to their surfaces. On the subject of treatment he spoke with considerable detail, but in the limited space at our disposal it is possible to indicate only a few points to which he referred. At the outset he brought prominently forward the subject of anto-infection, which is far too little dwelt upon, and in connexion therewith he indicated the means by which this might be prevented. In this connexion, also, he pointed out the great necessity there was for avoiding abrasion of the mucus membranes. Thereafter he discussed the various medicinal agents employed, and spoke favourably of the perchlorides of iron and mercury.

Mr. R. W. PARKER spoke of the surgical treatment of diphtheria. Of late, in performing tracheotomy, he has sought to enter the trachea by a single incision after the subcutaneous tissues have been dissected, as the less the tissues are disturbed the less the chance there is of absorption through the cut surfaces. He prefers the high operation, and considers tracheotomy preferable to intubation. In regard to the time for performing the operation, he raised the question whether it was justifiable to operate before dyspnœa had set in. He himself considered that in some cases it was so, as thereby "inhalation pneumonia"—such a fertile source of disaster—might be prevented; but in the subsequent discussion comparatively little support was given to this view.

Professor RANKE (Munich) drew attention to the investigations of Emerich, which, to his mind, had conclusively proved the existence of a micrococcus characteristic of diphtheria. He made some most interesting remarks on the influence of drainage, showing how Munich had, by attention to sanitary matters, been almost freed from enteric fever, while it still continued subject to diphtheria. He also spoke on the operative treatment, and his statistics showed a very large amount of recoveries after tracheotomy.

Dr. WAXHAM (Chicago) gave a demonstration of intubation, which had been very successful in his hands. He considered it a form of treatment preferable to tracheotomy, but the percentage of recoveries he recorded was not quite so high as that obtained by some from the older operation.

Dr. Gairdner, Dr. Macewen, Mr. Lennox-Browne, and others also spoke, and, Dr. Jacobi and Mr. Parker replied. The discussion was well attended, and was much appreciated.

OPHTHALMOLOGY.

The President, Dr. THOMAS REID, in a few well-chosen remarks, bade the members welcome on this the first meeting of the Association in Glasgow, and expressed regret that, owing to the Congress at Heidelberg, so few of the continental specialists were able to be present. He then called upon Mr. Carter to open the discussion on the Treatment of Senile Cataract.

Mr. CARTER began by stating that, as he had been operating almost continually during the last thirty years, he had therefore seen almost all the modifications of Daviel's operation. In speaking of those modifications, he said that their value depended in great part upon what he called "the personal equation of the operator." He advocated early operation, and did not think the presence of a little cortical matter in the capsule after extraction did so much harm as was formerly supposed. In regard to the question of anæsthetics, he now preferred cocaine to general anæsthesia, and counteracted the dilatation of the pupil by means of eserine instilled half an hour previous to the operation. He believed that the cases of suppuration after cataract extraction were due to uncleanliness on the part of the instruments employed, rather than from infection in the eye itself, and he was therefore scrupulously careful to cleanse those thoroughly, especially the teeth of the forceps and the shoulder of the cystotome. He preferred to wash out the conjunctival cul-de-sac with a 15 per cent. solution of Barff's boro-glyceride instead of the mercurial antiseptics which are now so generally used, as he believed that much of the pain and swelling which sometimes followed an operation were due to the use of the latter antiseptic. For the operation he employed a knife with a narrow blade, and in order that it might cut easily and so prevent as far as possible the escape of aqueous, he anointed it with a mixture of equal parts of olive oil and castor oil to which 5 per cent. of eucalyptus oil had been added. He strongly insisted upon the value of an iridectomy, performed either preliminary to or at the time of the extraction, as he considered that that practice was safer, and gave as good results optically as in those cases in which the iris was left untouched. He considered washing out the anterior chamber after extraction to be unnecessary, and thought that with an iridectomy any iritis which might occur as a result of some cortical matter being retained was usually quite controllable by treatment. For dressing he did not employ plaster, but applied a piece of lint smeared with sanitas vaseline to the eyelids, and supported the eye by means of a light compress and bandage, and the eye was left undisturbed for forty-eight hours after the operation. When any opacity of the capsule remained, he preferred to deal with it after the method proposed by Bowman.

The discussion was afterwards carried on by Drs. Meighan, Lloyd Owen, C. H. Lee, Hewetson, Karl Grossman, J. H. Bell, S. Snell, J. R. Wolfe, Powell, Teale, McHardy, and the President. Mr. Carter briefly replied.

Dr. WOLFE gave an excellent demonstration of his method of operating for the extraction of cataract. This consists in performing a preliminary iridectomy downwards. After the lapse of a period varying from seven to fourteen days the extraction is effected. He uses a spring speculum to separate the lids, the patient being in a recumbent position, but employs neither chloroform nor cocaine. The speculum being introduced, he passes a sharp-pointed Graefe's knife through the anterior chamber, both puncture and counter-puncture being in the cornea. This section of the cornea is not, however, completed, a bridge being left. The speculum is now removed, and the lids being separated with the forefinger and thumb, a cystotome is passed into the anterior chamber, and the capsule divided. A blunt-pointed Graefe's knife is now passed through the formerly made puncture and counter-puncture, and the bridge of cornea is divided. The removal of the lens is effected by gentle pressure applied above and below with the fingers. In this method there is very little risk of escape of the vitreous, and in the numerous cases we saw, numbering eleven in all, the procedure appeared to be eminently satisfactory.

PSYCHOLOGY.

Dr. JAMES C. HOWDEN, the President of this Section, gave the opening address. At the outset he remarked upon the assistance to be obtained from physiology in the treatment of insanity. Brain surgery would certainly be of use in the future in treatment—e.g., in cases of epileptic insanity due to depression of bone; also in cases where there was a collection of pus, causing pressure. On the whole, however, surgical treatment can only be adopted in exceptional cases. He then referred to the medical and moral, or, as he would rather call it, the "mental" treatment. There was no specific for insanity. Some, he said, relied upon a purely expectant treatment, but he always believed that "nature helps those who help themselves." He made some remarks on the proper training of asylum attendants as a step in the proper direction. The "mental" treatment of insanity was the most important of all, and he put special stress on the early removal of the patient from unfavourable surroundings. In speaking of prevention, he referred to the relationship of civilisation to insanity. The conduct of the people as individuals had an important bearing on this question, but the State might do much by wise legislation. With reference to some modern methods of treatment, he was in favour of boarding out well-selected chronic cases; and in regard to the open-door system, he thought this might be pushed too far.

Dr. SAVAGE, in proposing a vote of thanks to Dr. Howden for his address, made a few comments. He thought it was impossible that an asylum superintendent could efficiently treat all the cases in a large asylum without a sufficiency of medical assistants.

Drs. Conolly, Norman, and Gairdner also made some remarks.

Dr. A. K. TURNBULL (Fife and Kinross Asylum), read a paper on "Boarding-out as a Provision for Pauper Insane." He said this system of dealing with the insane should be adopted when institutional care was no longer required, domestic care being all that was necessary. It was a means for providing for many cases of mild chronic dementia. The advantages he claimed for it were: (1) The patient obtained natural and healthy occupation; (2) it was more economical; and (3) it relieved the pressure on asylums. Of course many requirements must be fulfilled before boarding out any cases—e.g., the latter must be properly selected, and the guardians must be capable of taking charge of such patients.

Dr. YELLOWLEES concurred, on the whole, with Dr. Turnbull's remarks, but thought his plan could only be adopted in a rural district.

Dr. HACK TUKE, in his remarks, said that the injury to the young members of the family into which the patient was received was not sufficiently thought of.

Dr. STEARNS (Hartford, Conn.) said that the boarding-out system had not as yet been adopted in the United States. In that country, in connexion with the State asylums, were two annexes for male and female chronic cases, and under the immediate supervision of the officials in the asylum proper. So far, this system worked very well.

Drs. Mould, Richardson, and Clouston spoke in favour of the boarding-out system under due limitations.

Dr. WIGLESWORTH read a paper on the Pathology of Delusional Insanity (Monomania). In the course of his remarks, he observed that in this affection hallucinations were always primary, and the delusions secondary, and that at the outset it was an affection of the lower centres, the highest centres being unaffected.

Drs. Savage, Mickle, Norman, and Yellowlees took part in the discussion, the latter two remarking there could be no monomaniac without some disturbance of the higher centres—e.g., judgment.

PHARMACOLOGY AND THERAPEUTICS.

This section was accommodated in the Conveyancing Classs room, and was under the Presidency of Dr. James Morton (Glasgow).

Dr. MORTON, in opening the proceedings, said it was to be regretted that our best informed pharmacists were not to be found in the ranks of the medical profession, but amongst chemists and druggists. The progress of pharmacy, which had of late been rapid, was to be ascribed more to the enterprise and competition of pharmaceutical firms than to the researches and discoveries of the scientific physician. For the purity of the remedies prescribed by the physician reliance had to be placed on the skill and integrity of the pharmacists of such firms. This was becoming every day more completely the case. He suggested the necessity of some education test or Government control; and that every medical student during or before his professional curriculum, should attend a class to be taught by a well-informed pharmacist. In making this proposal he had no desire to under-estimate the knowledge of pharmacy possessed by members of his own profession; but it was not to be expected that under existing arrangements they should attain to a knowledge of this department as accurate and full as that which must be possessed by many of those whose whole time had been devoted to it for many years.

Several papers of interest were read in this Section, abstracts of which must be deferred till next week.

LARYNGOLOGY AND RHINOLOGY.

Dr. FELIX SEMON, the President, delivered an excellent address in which he sketched the history of laryngology in this and other countries. He spoke of the differences of opinion held by those who advocated constitutional as opposed to local treatment, and the controversies which had taken place in consequence thereof. Ten years ago, however, the real advance in the study of laryngology began, and so great had been the progress made, that it was now firmly established in every school of medicine, as might be expected from a department which had so much good in it. Dr. Semon further pointed out that the work done in this country was highly to be commended, and the papers written on this subject were to be counted by the hundred during the past year, many of which were of great merit. He would desire, however, firstly, to have the subjects of laryngology and rhinology made compulsory in the curriculum of medical study; secondly, he desired that the students' knowledge of thes subjects should be tested on going up for final examination; and, thirdly, that the organisation of a body of teachers was a matter to be desired, as the teaching at present of diseases of the throat generally took place at hours which made it difficult for the student to overtake it in his course. However great the experience and clinical material might be in this country, it was so widely spread in our cities that it could not be taken advantage of as in most continental schools. Dr. Semon further advocated the communication of subjects of interest at our medical societies, although he did not approve of the formation of special societies.

Dr. DE HAVILLAND HALL introduced the discussion on the Use and Abuse of Local Treatment in Diseases of the Upper Air Passages, and dealt with the use and abuse of remedies in many of the commoner forms of throat affections. He pointed to the energetic manner in which the nose particularly had been attacked by enthusiasts, and said that at first the larnyx had received particular attention. Now we heard of people operating on 160 cases in one year, with a view to correcting conditions of the nasal septum. He trusted that these zealous workers would soon be satisfied, and the nasal organ less interfered with.

Dr. GEORGE STOKER seconded the discussion, and treated particularly of the use and abuse of insufflations and the galvano-cautery in the treatment of these affections.

An animated discussion followed, in which Drs. Grant, Hodgskinson, Spicer, Mackenzie, Johnstone, Macintyre, Jacob, and Nelson took part. Great unanimity of opinion was expressed by these gentlemen to the effect that the local treatment, without due consideration of the constitutional, was wrong.

Dr. JOHN MACINTYRE showed a dissection of the human larnyx in which four hyo-epiglottidean muscles were exposed, two median and two lateral, and described their origin and insertion. He also exhibited a number of the same muscles in mammals. He said that Luschka refers to the two median muscular bands as having been described in 1743 by Morgagni, but no reference is made to the lateral pair. The muscles are not mentioned in the ordinary text-books of Anatomy and Surgery.

Dr. SEMON, in the name of the members of the Section, congratulated Dr. Macintyre on his thoroughly original demonstration.

Dr. NEWMAN read a paper on two cases of complete Laryngeal Stenosis, after which the meeting adjourned.

REPORT OF THE AGRICULTURAL DEPARTMENT.

PROFESSOR BROWN'S report of the Agricultural Department, Privy Council Office, on the Contagious Diseases, Inspection, and Transit of Animals for the year 1887, opens with a reference to pleuro-pneumonia, in which it is pointed out that, although inoculation confers a certain degree of protection, its effects are merely palliative, and it is a measure which has in no country succeeded in getting rid of the disease. The only successful procedure has been the stamping-out system. It is suggested that an exhaustive scientific inquiry should be made upon the subject. Pleuro-pneumonia was very prevalent in some parts of Scotland during the past year, the number of outbreaks increasing from 55 in 1884, with 321 cattle attacked, to 324 in 1887, with 1380 attacked. In England the number of outbreaks and infected animals was in 1884—257 and 775, in 1887—293 and 1047 respectively. Wales remained practically free, only one outbreak occurring there in 1884 and one in 1887. The increase is undoubtedly in the main due to the movement of infected cattle—a fact which received a striking confirmation in the case of Lanarkshire, where efforts to stamp out the disease for a long time failed to eradicate it, owing to the existence of unsuspected centres of the disease in that county. Professor Brown insists upon the rigid enforcement of the powers possessed by the local authorities with respect to the movement of cattle in their districts, and alludes to the fact that the disease is one which may remain dormant and unrecognisable for months, as an explanation of the impossibility of at once eradicating it by repressive measures. Still, such measures, promptly and generally applied, should limit outbreaks when they do occur. Swine fever, also highly contagious and fatal, is even more difficult to deal with, and the opinion is expressed that stamping out swine fever will only be carried to a successful issue when cattle plague regulations are enforced. Experimental inquiry as to the value of inoculations has had to be abandoned owing to the difficulties of having a sufficient number of persons licensed to perform such experiments. It is pointed out that three distinct diseases are included in the term swine fever, and the appendix contains a report of a recent inquiry by Professor Schütz upon the subject. The fever prevalent in this country is identical with hog cholera of the United States, but there is also a contagious lung disease (swine plague, Salmon) prevalent in France (*la pneumonie infectieuse*) and Germany (*Schweine seuche*); and also a form of erysipelas (*rouget*, Fr.) These two latter forms have not been identified in this country, but they may exist, although to a very slight extent. Stamping out fails in swine fever because of the general apathy in regard to its ravages. It fails in anthrax from the utter impossibility to prevent the introduction of the spores of the disease. Rabies was much less prevalent among dogs, but the year was marked by the epidemic among the deer in Richmond Park, of which an account is given in the appendix. Glanders and farcy were apparently more prevalent, especially in the metropolis. The report also refers to the importation of foreign animals, and contains in the appendix full reports of the inspectors.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5729 births and 2881 deaths were registered during the week ending Aug. 4th. The annual rate of mortality in these towns, which had ranged between 15·0 and 16·0 per 1000 in the preceding four weeks, was again last week 16·0. During the first five weeks of the current quarter the death-rate in these towns averaged but 15·7 per 1000, and was 5·5 below the mean rate in the corresponding periods of the ten years 1878-87. The lowest rates in these towns last week were 9·0 in Bristol, 10·0 in Brighton, 12·0 in Cardiff, and 12·4 in Hull. The rates in the other towns ranged upwards to 19·2 in Wolverhampton, 19·7 in Preston, 21·1 in Huddersfield, and 21·9 in Manchester. The deaths referred to the principal zymotic diseases, which had been 311 and 409 in the preceding two weeks, further rose last week to 432; they included 215 from diarrhœa, 64 from measles, 61 from whooping-cough, 39 from scarlet fever, 27 from diphtheria, 21 from "fever" (principally enteric), and only 5 from small-pox. No death from any of these zymotic diseases was registered during the week in Brighton or in Cardiff, whereas they caused the highest death-rates in Sheffield, Leeds, and Leicester. The greatest mortality from diarrhœa occurred in Leeds, Preston, Leicester, and Sheffield; from whooping-cough in Norwich, Manchester, and Halifax; from measles in Wolverhampton and Leicester; from scarlet fever in Huddersfield and Blackburn; and from "fever" in Birkenhead. The 27 deaths from diphtheria included 19 in London and 3 in Manchester. Small-pox caused 2 deaths in Preston, 1 in Oldham, 1 in Sheffield, and 1 in Hull, but not one in London or in any of the twenty-three other great towns. The Metropolitan Asylum Hospitals and the Highgate Small-pox Hospital contained only 2 small-pox patients at the end of the week. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital was 828 at the end of the week, against numbers declining in the preceding four weeks from 924 to 861; 73 cases were admitted during the week, against 105 and 87 in the two previous weeks. The deaths referred to diseases of the respiratory organs in London, which had been 166 and 160 in the preceding two weeks, rose last week to 167, but were 25 below the corrected average. The causes of 58, or 2·0 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bradford, Leicester, Portsmouth, and in five other smaller towns. The largest proportions of uncertified deaths were registered in Halifax, Huddersfield, and Blackburn.

HEALTH OF SCOTCH TOWNS.

THE annual rate of mortality in the eight Scotch towns, which had been 18·4 and 15·3 per 1000 in the preceding two weeks, rose again to 15·9 in the week ending August 4th; this rate was 0·1 below the mean rate during the same week in the twenty-eight large English towns. The rates in these Scotch towns ranged from 6·4 and 10·5 in Perth and Leith, to 18·2 in Glasgow and 18·7 in Aberdeen. The 402 deaths in the eight towns showed an increase of 15 upon the low number in the previous week, and included 22 which were referred to diarrhœa, 5 to whooping-cough, 3 to "fever," 3 to scarlet fever, 3 to measles, 2 to diphtheria, and not one to small-pox; in all, 38 deaths resulted from these principal zymotic diseases, against 35 and 41 in the preceding two weeks. These 38 deaths were equal to an annual rate of 1·5 per 1000, which was 0·9 below the mean rate from the same diseases in the twenty-eight English towns. The deaths attributed to diarrhœa, which had been 8, 12, and 21 in the preceding three weeks, further rose last week to 22, but were 6 below the number returned in the corresponding week of last year. The deaths referred to the other zymotic diseases differed but slightly from the numbers in the previous two weeks. All the three deaths from "fever," the 3 fatal cases of measles, and 3 of the 5 from whooping-cough were returned in Glasgow. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 84 and 46, in the preceding two weeks, rose again last week to 55, but were 9 below the number returned in the corresponding week of last year. The causes of 61, or more than 15 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

THE rate of mortality in Dublin, which had been 22·6, 19·4, and 18·0 per 1000 in the preceding three weeks, rose again to 21·1 in the week ending August 4th. During the first five weeks of the current quarter the death-rate in the city averaged 20·3 per 1000, the mean rate during the same period being 15·6 in London and 15·8 in Edinburgh. The 143 deaths in Dublin showed an increase of 21 upon the number in the previous week; they included 11 which were referred to whooping-cough, 6 to "fever" (typhus, enteric, or ill-defined), 3 to scarlet fever, 1 to diarrhœa, and not one either to small-pox, measles, or diphtheria. Thus 21 deaths resulted from these principal zymotic diseases, against 21, 16, and 8 in the preceding three weeks; these were equal to an annual rate of 3·1 per 1000, the

rate from the same diseases being 2·7 in London and 0·2 in Edinburgh. The deaths from whooping-cough, and "fever," showed a considerable increase upon the numbers in recent weeks; the fatal cases of scarlet fever were within one of the number in the previous week. Five deaths from violence and 7 inquest cases were registered; and 44, or nearly a third, of the deaths occurred in public institutions. The causes of 15, or nearly 11 per cent., of the deaths in the city were not certified.

THE SERVICES.

ADMIRALTY. — The following appointments have been made:—Surgeon George W. Bell, to the *Wye;* Surgeon Bowen S. Mends, to the *Vernon*, temporarily; Surgeon John S. Lambert, to Haslar Hospital; Surgeon C. W. Hamilton, to the *Boscawen;* and Surgeon E. E. Bray, to the Royal Marine Artillery, Eastney (all to date Aug. 3rd, 1888); Surgeon Edward J. Biden, to the *Defiance;* Surgeon William Hayes, to Plymouth Hospital; Surgeon F. A. Jeans, to the Royal Marine Artillery, Eastney; Surgeon H. S. Jackson, to the *Monarch;* Surgeon John A. Aherne, to the Royal Marine Depôt, Walmer; Surgeon A. W. E. B. Barrett, to the *Ajax;* Surgeon George Welch, to Haslar Hospital; Surgeon Edward H. Williams, to the *Duke of Wellington;* Surgeon Alexander M. French, to the Royal Marines, Plymouth; and Surgeon C. James, to the *Agincourt* (all to date Aug. 20th, 1888).

ARTILLERY VOLUNTEERS.—1st Glamorganshire: Archibald Hood, M.B., to be Acting Surgeon (dated Aug. 4th, 1888).

RIFLE VOLUNTEERS. — 5th Volunteer Battalion, the Cameronians (Scottish Rifles): Donald Macphail, M.D., to be Acting Surgeon (dated Aug. 4th, 1888); John Blair, M.D., to be Acting Surgeon (dated Aug. 4th, 1888).—2nd Volunteer Battalion, the King's (Liverpool Regiment): Nathaniel Edwd. Roberts, M.B., to be Acting Surgeon (dated Aug. 4th, 1888).—4th (Stirlingshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): John Brown Robertson, M.B., to be Acting Surgeon (dated Aug. 4th, 1888). 3rd Volunteer Battalion, the Queen's (Royal West Surrey Regiment): Surgeon C. Stirling resigns his commission (dated Aug. 4th, 1888).—1st (Hallamshire) Volunteer Battalion, the York and Lancaster Regiment: Surgeon A. Hallam is granted the honorary rank of Surgeon-Major (dated Aug. 4th, 1888).

Correspondence.

"Audi alteram partem."

LONGEVITY AND ALCOHOL.

To the Editors of THE LANCET.

SIRS,—As you have referred to me, pray allow me to state that in no paper or article have I attributed any "conclusions" to Dr. Isambard Owen, other than he has given himself. The paper to which you have alluded was written with the very object of pointing out the error of imputing such a "conclusion" to Dr. Owen, or that intemperate drinkers lived longer than abstainers. This is an error into which a large number of newspapers and of men of light and leading have fallen. The correspondence that has poured in upon me from this misunderstanding has been appalling. I distinctly pointed out that Dr. Owen plainly stated that the returns of the Collective Investigation Committee afforded *no* means of comparing the duration of life of abstainers and intemperates. I added Dr. Owen's explanation of the apparent anomaly, and some of the conclusions which he felt warranted in drawing from the returns. Though these conclusions are very favourable to temperance, I agree with you in laying very little weight on them. The small number of the cases reported on, 4234 deaths from 178 reporters, is much too restricted a basis to warrant any general deductions of any kind. Another grave defect is that the returns depended on the memory of the returning practitioners for a preceding period of three years, the only guide being the counterfoils of each death certificate book. Considering how few medical men have paid special attention to the alcoholic particulars of any case, and how overburdened a general practitioner usually is, such a method cannot but be inaccurate. The classification, too, was exceedingly vague. For these and other reasons, while awarding Dr. Owen full praise for the labour and pains he has bestowed on the material at his disposal, I am unable to place much reliance on the returns from this inquiry. It appears to me to be a *sine quâ non* of any trustworthy investigation that the reporters should be asked to report *future* deaths during a prescribed period. In this way attention would be called beforehand to the particulars required, and thus intelligent observations would be recorded But such an inquiry must ever be surrounded with great difficulties.

I am, Sirs, your obedient servant,

Grove-road, Regent's-park, Aug. 4th, 1888. NORMAN KERR.

JUDICIAL EXECUTIONS BY HANGING.

To the Editors of THE LANCET.

SIRS,—Your correspondent, Dr. Higham Hill, "hits the right nail on the head" when he complains that "under the existing system the hangman appears to be the sole authority for deciding upon the length of drop, &c." I imagine "the few material points" in his letter might include the important one of the position of the "knot" which is still placed under the left ear, though it is admitted to exercise, and with less force (drop) more fatal leverage when placed under the chin. The ropes used are made of the best Italian hemp and are wonderfully flexible and soft. Berry generally uses one of $\frac{7}{8}$ in. diameter, though he has shown me one of $\frac{3}{4}$ in. which he had used. These ropes become smaller and more cutting when stretched with a weight; the tight leather "washer," which is with difficulty forced down to fix the noose, generally falling 6 inches or more, the amount of constriction of the neck. The hangman is allowed to view his victim through the grating in the condemned cell door long before the hour of execution, and it is on this inspection, together with weight and height supplied by the prison authorities, that he is supposed to make his "calculations." If Berry knew, as he says he did, what was going to happen at Oxford, he might have put three or four common knots on the rope, between his "thread" and the noose, which would have shortened the drop by about a foot, rendered the check a little more gradual, and would not have added twenty seconds to the culprit's stand under the beam. I hope shortly to place before the profession a description of the simple "contrivance" which I brought to the notice of Lord Aberdare's Committee with an analysis of the present system of executions, and of the committee's objections to my proposals, which I hope to find in a copy of their report promised by the Home Secretary through my friend, Mr. Brookfield, M.P.

I am, Sirs, your obedient servant,

J. J. DE ZOUCHE MARSHALL, L.R.C.S.I., &c.

High-street, Hastings, Aug. 1st, 1888.

AN EASY METHOD FOR PRODUCING LARGE ANATOMICAL DIAGRAMS.

To the Editors of THE LANCET.

SIRS,—Everyone knows that, having once produced the outline to scale, the filling in of detail is an easy matter in a large diagram. Having wasted some time with pantagraph enlarging it was given up. I next turned to the "magic lantern" for aid, and tried as follows:—1. Ground glass to trace the picture, then covered with Canada balsam and sheet of glass used as a lantern slide, but found that fine lines cannot be easily traced, the thickness of glass offering the obstacle. 2. Plain glass coated with benzole varnish (one ounce dried Canada balsam to two ounces benzole); this answered better, but the thickness of the glass again prevented very fine tracings being made. 3. Next, coated mica in thin sheets with the above varnish, and found it answer admirably. Mode of procedure: Having coated the mica with varnish, lay it on the picture or engraving to be enlarged, trace the outlines on the varnished surface with a fine drawing pen and liquid Indian ink. Place this as the slide in an ordinary magic lantern (oil lamp gives ample luminosity—I use an argand reading light in the lantern) and the picture is enlarged to any size according to the distance of the lantern from the screen. I find it is better to use the wall as the screen where the paper or calico is

hung, and it is an easy process to run over the outline on the material with a soft crayon. The tracing, fitting up, and drawing occupy on an average a quarter of an hour. Enlarging on the black board so that the lecturer may fill in is easily done by this method, the room being slightly darkened, absolute darknesss not being necessary as only black lines are required, and no fine features or tracery. Thinking it might save time to others, I offer it.

I am, Sirs, yours truly,

W. THELWALL THOMAS, M.R.C.S., &c.,
Holt Tutorial Scholar, Univ. Coll. Sch. of Med., Liverpool.

June 16th, 1888.

LIVERPOOL.

(From our own Correspondent.)

THE ASSIZES.

AMONG the cases now being tried before Mr. Justice Stephen was one of murder on the high seas. The deceased was the captain and the prisoner the steward. A penetrating wound of the abdomen was caused by a knife; there was no surgeon on board, but the first and second officers did their best in what was evidently a hopeless case, death following in a few hours. Sentence of death was passed. There were many cases of serious assaults and wounding. In one a woman was charged with the murder of another woman by throwing a paraffin lamp at her. The deceased survived the assault, and the prisoner was committed for causing grievous bodily harm; but death ensuing, she was tried for murder. She was acquitted on this charge, but convicted of the minor offence and sentenced to seven years' penal servitude. In another case the dying declaration of the wife, the assaulted person, had been taken, but she fortunately recovered and was able to give evidence. Besides inflicting several wounds upon her head, it was stated that her husband jumped upon her. Dr. Hutchinson of Widnes found her suffering from peritonitis, and for some days she was in extreme danger. For biting off a portion of a policeman's ear a negro prize-fighter was sentenced to eighteen months' imprisonment with hard labour.

SOUTHPORT AS A HEALTH RESORT.

Fifty years ago Southport was an almost unknown village, difficult of access, and without any accommodation for visitors. The formation of the railway some years later gave a great impetus to the place, which was favourably situated for a health resort, and it is now an incorporated borough with a population of 30,000, a mayor and corporation, and a parliamentary representative. From the first it has been built wisely, with long, straight, wide streets at right angles to each other, and the sanitary arrangements are in accordance with the most modern improvements. The air is remarkable for its mildness, the streets drying rapidly after the heaviest rains. There are several large first-class hotels and excellent lodgings to be had. Many Liverpool merchants and others, who have to spend the day here, live at Southport, the train service being most convenient. The deficiency until recently was that the sea was rather distant except in very high tide. The corporation have recently overcome this. They have constructed a sort of miniature breakwater, over which the tide flows, and the water is retained. The promenade is excellent, and there is every comfort and attraction provided so as to counteract the dulness so often experienced at health resorts.

Liverpool, Aug. 7th.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

NEWCASTLE.

THE quarterly meeting of the Newcastle Royal Infirmary showed a much improved and satisfactory condition of the hospital as regards its financial state. There had been an increase in the subscriptions for the quarter of £226, while under the head of donations there had been an increase of £585, and the workmen's donations reached £1427, being an increase for the quarter of over £1000. So much for placing the hospital on a broad basis, and trusting the people to support an institution by which they so greatly benefit. The expenditure had likewise diminished, the cost per patient being at the rate of £17 7*s.* 6*d.* per annum, against £19 in the previous quarter. The Newcastle and Gateshead Water Company have invited the representatives of the two corporations to inspect the great reservoir at West Hallington, Northumberland, now about complete. Some idea of the water resources of the company may be formed when it is stated that this new reservoir will have capacity to store 750,000,000 gallons, so that after this addition all fears as to water supply for Newcastle, Gateshead, and some of the adjacent districts may be set at rest.

CURIOUS BURIAL CASE AT DURHAM.

Last week an inquest was held at Durham, which showed a conflict of female opinion about the birth of an infant which was not satisfactory to the coroner. The body of a child was delivered to a sexton for interment, the woman who took it stating it was stillborn, no doubt by this means hoping to escape burial fees; but, on the other hand, the midwife attending gave a certificate that the child was born alive, in order to get payment from the club. It is right to say that this certificate was not received by the registrar. The matter coming to the notice of the coroner, he held an inquest, and had a post-mortem performed by Mr. Vann of Durham, who testified that the child had not had an independent existence. The fact is many of the lower classes will say that a child has been born either dead or alive just as it suits them to save or to get money.

A HOLIDAY HOME FOR POOR CHILDREN.

The poor children of Leeds and other West Riding towns are indebted to the Hon. Mrs. Geo. Howard of Castle Howard for a rare treat. Thanks to her philanthropy and munificence, a fund of £500 has been subscribed for the purpose of taking the poor children of the overcrowded towns of Yorkshire and giving them a summer holiday of two or three weeks' duration on and about the lovely estate of Castle Howard. Already 600 children have been entertained there this summer, and a further batch was sent last week, and billeted on the cottagers of the estate, as well as filling the Guest House, which was formerly the large hotel near the Castle, and is well known to all tourists. The Hon. Mrs. Howard and family are taking the liveliest interest in the scheme, which is a truly charitable and sanitary one, and deserving of all praise.

SOUTH SHIELDS: THE VALUE OF "FIRST AID."

The *South Shields Gazette* of Tuesday last notices a case which took place on the previous day in South Shields, and which shows very forcibly the value of first aid rendered by a person who has been properly instructed in ambulance work. A little boy, about four years old, got into a saw-mill yard, and playing about noticed a lid in the ground. This (which was a cover to a well about ten feet deep) he lifted up, and falling in the lid or cover closed over him. The accident was not observed by anyone, but an old woman passing noticed strange noises from the well and gave the alarm, and in some little time the child was got out apparently drowned. But Sub-inspector Barrett, of the River Police, who had received regular ambulance instruction, at once brought the "Marshall Hall" method into operation, and with a successful result.

HARTLEPOOL: DIAGNOSIS OF DRUNKENNESS.

At the Hartlepool Petty Sessions last week, a young man was charged with being drunk on July 22nd when in charge of a pony and trap. He resented the charge at the time, and went to a medical man, Dr. Morison, to testify as to his condition. Dr. Morison stated that he found him sober. Questioned as to the tests he used, he said he had given him some very difficult sentences to repeat, which a man could not do if he were drunk, and from his general appearance and the way in which he spoke he concluded he was not drunk. "He smelt a little of drink to be sure, but a man who had the least drop of drink in the world may smell of drink." The Bench dismissed the case.

ACTION FOR LIBEL BY A MEDICAL MAN.

Dr. Eastwood, of the Dinsdale Asylum, Darlington, has recovered £50 and costs, in an action for libel tried at the Leeds Assizes, against a northern contemporary. The libel was a copy of a sensational article copied from another paper, which Dr. Eastwood alleged had a damaging effect on the asylum of which he is the proprietor.

Newcastle-on-Tyne, Aug. 7th.

EDINBURGH.

(From our own Correspondent.)

UNIVERSITY GRADUATION CEREMONIAL.

THE annual Graduation Ceremonial in Medicine took place on Wednesday, Aug. 1st, when forty-eight gentlemen received the degree of M.D., and 192 those of M.B. and C.M. Prior to the "capping" of this large body of graduates, the Chancellor of the University conferred the honorary degree of LL.D. upon Sir Nathaniel Lindley, Lord Justice of Appeal, a highly distinguished jurist and judge, whose name is as well known among lawyers as is that of his father, Dr. John Lindley, among botanists. Among the recipients of the degree of M.D. were three whose theses were of such high merit as to have earned the distinction of a university gold medal. These were Dr. James Graham, who has conducted "A Clinical Study of Hydatid Disease"; Dr. Berry-Haycraft, who writes on "The History, Development, and Function of the Carapace of the Chelonia"; and Dr. George Mackay, whose thesis deals with "Hemianopsia and Hemiachromatopsia." After the ceremony of "capping" the graduates, they were addressed by Sir Wm. Turner, who congratulated them upon the degrees to which they had just been advanced. In an interesting comparison of the past with the present, he drew their attention to the great strides in advance that medicine as a science has made since the days of his own pupilage; and on that basis he defended the present system of scientific medical education against the charge that it is too theoretical and not sufficiently practical in its nature. In commenting on intellectual development as affecting the usefulness of the powers it is intended to call forth, he drew special attention to the importance of acquiring a habit of exact observation and its due combination with carefully trained methods of reflexion and comparison. Perhaps the most valuable part of his address was that in which he addressed himself to the consideration of the moral side of professional life. Here he found the opportunity of saying eloquently words of sound advice, which his hearers cannot lightly pass over or forget, and which are calculated to recur to the mind on the many occasions where wisdom is specially needed to guide the professional man. The address was excellently conceived in its form and ably delivered, and it was no small matter of congratulation to those who were present that the speaker used a great opportunity like that afforded for no narrow discussion of academic policy, but for the enunciation of the broad principles of human uprightness and professional rectitude.

THE UNIVERSITY COURT.

At its last meeting the Court recognised the lectures of the following teachers as qualifying courses in the University medical curriculum: Dr. James, in Practice of Physic; Mr. A. G. Miller, in Clinical Surgery; Dr. Hodsdon, in Surgery; and Mr. Geddes (Dundee), in Botany.

Edinburgh, August 8th.

DUBLIN.

(From our own Correspondent.)

ROYAL UNIVERSITY OF IRELAND.

AT a meeting of the Senate held last week, the following modifications in the present regulations respecting the third and fourth year of medical studies were adopted: (*a*) Medical students may attend lectures on any two of the subjects of medicine, surgery, midwifery, and diseases of women and children, in either the third or the fourth year of their studies, at their own option, provided that (1) the attendance of three months at a fever hospital &c., or on the prescribed ten fever cases, shall not take place prior to the attendance at the course of lectures on theory and practice of medicine; (2) the six months' attendance at a midwifery hospital or dispensary shall not take place prior to attendance at the course of lectures on midwifery; and (3) attendance on practical midwifery and gynæcology shall not take place during the attendance at a fever hospital &c., or on fever cases. (*b*) Attendance on practical pharmacy may take place during either the third or the fourth year of medical studies. The Senate have also approved of a slight modification in the courses of biology prescribed for the first examination in medicine. The annual meeting of Convocation will be held on Tuesday, Oct. 30th, and at this meeting a representative of Convocation of the Senate will be elected. Henceforth the attendance to be required on courses of medical lectures will be increased from two-thirds to three-fourths. The Senate have purchased the museum, surgical and pathological collections and drawings, &c., connected with the Richmond Hospital.

LOCAL GOVERNMENT BOARD: ANNUAL REPORT.

In the last annual report attention was drawn to the fact that there was a decrease in the average daily number of persons relieved in the workhouses in the year ended January, 1887, as compared with the number relieved in the year preceding. The returns for the year under consideration show a further decline in those admitted to workhouses, and a decrease of 12,735 in the average daily number of persons who received out-door relief as contrasted with the year ended January, 1887. There was an increase of 3248 in the total number admitted in sickness to workhouses, and an increase of 23,396 in the number admitted who were not sick, thus showing an increase of 26,644 in the total number admitted during the year, as compared with the previous year. During the twelve months ending Jan. 14th last the total number of deaths in the workhouses amounted to 10,187, being a decrease of 507 as compared with the previous return. Deaths by fever were 383, as against 346; by lung disease 1754, as against 1848; and there were three deaths by small-pox, as against one in the previous year. As regards the number of cases in which medical relief was afforded under the Medical Charities Act, it appears that there was an increase of 2939, including those prescribed for at dispensaries and attended at their own homes, as compared with the preceding year. During the year ended Sept. 30th, 1887, 96,489 persons were vaccinated, showing an increase amounting to 1628. The total expenditure of poor-rates for poor relief, medical relief, burial-grounds, sanitary measures, superannuation, &c., was in 1887 £1,338,704, or a decrease of £21,893.

ZYMOTIC DISEASES IN DUBLIN REGISTRATION DISTRICT.

During the June quarter the deaths from zymotic diseases numbered 272, being a decrease of 105 as compared with the preceding thirteen weeks. Six cases of small-pox were admitted to hospital, but no death from this disease was recorded.

THE CASE OF THE LATE MR. RIDLEY.

The evidence given at the inquest by Dr. MacCabe, who in November and December last was medical member of the Prison's Board, is tolerably conclusive as to the late Mr. Ridley's mental condition previous to his death. Mr. MacCabe has had considerable training in mental affections, and his evidence as a medical man and an expert in psychology is that Mr. Ridley was temporarily insane when he committed suicide. He attributes the cause of his insanity to constant anxiety. He (Mr. Ridley) had passed through a very trying ordeal, and it seemed to dwell on his mind. That and the loss of practice, as well as of popularity, which he seemed to feel very much, and the subsequent loss of sleep for several nights, all led, in Dr. MacCabe's opinion, to a sudden suicidal impulse. He was also of opinion that the reports contributed very materially to the condition of mental strain which led to the fatal act.

At a special meeting of the Ballycastle Board of Guardians, held recently, Dr. O'Connor, late dispensary medical officer, was granted a retiring allowance of £98 17*s.* per annum.

The Senate of the Royal University of Ireland have re-elected Dr. J. T. Banks their representative on the General Medical Council.

The Treasury have granted a loan of £35,000 for the construction of the new waterworks at Limerick.

Dublin, August 7th.

METROPOLITAN HOSPITAL SATURDAY FUND.—The fifteenth annual street collection on the 14th ult., in aid of this fund, is announced to be the largest since the institution of the fund, and shows a net increase of £500 upon the preceding collection, which amounted to £5000. The workshop collections have yet to be received.

PARIS.

(From our own Correspondent.)

THE CONGRESS ON TUBERCULOSIS.

(Continued from page 234.)

ON July 27th the members of the Congress visited the laboratory of Professor Cornil. A great number of microscopes, and a still greater number of microscopic preparations, were placed at the disposal of the visitors, who were enabled to examine, under all their phases, the tuberculous lesions, the bacilli of Koch, and the other microbes which may be associated with them. An admirable preparation of actinomycose attracted great attention. From a group of inextricable filaments forming the mycelium of mushrooms deviated some ramified filaments presenting their extremities swollen in the form of gonoides. Dr. Straus, Professor of Experimental Pathology, presented a certain number of animals, on which he continued his remarkable researches. Professor Proust then invited the members of the Congress to visit his recently established Museum of Hygiene. He gave an exposition of procedures and apparatus applicable to prophylaxy. He also showed a model of a stove for disinfection. In this stove are introduced the mattresses, the clothes, and linen to be disinfected, and they are left for twenty minutes in contact with the vapour, heated to about 106° C. No pathogenic microbe, observed M. Proust, can resist this treatment. If all passenger ships were furnished with this stove, he had no doubt that its employment would singularly facilitate the abolition of quarantines of observation. For the disinfection of the sides of the interior of rooms which had been occupied by tuberculous patients, M. Proust employed a powerful jet of a solution of corrosive sublimate, which he effected by the aid of a pump. In the hospitals the sputa of phthisical patients may be easily disinfected by washing the spittoons in a pail covered over with amianthus, and in which boiling water is poured, so that the bacilli will be found in a medium at 90° C., which temperature is sufficient to kill them. In the afternoon the attention of the Congress was called to several interesting communications. M. de Brun of Beyrouth believes in the antagonism between impaludism and tuberculosis. For the last thirty years, tuberculosis, which formerly was very rare on the Syrian coast, has been becoming more and more frequent, at the same time that intermittent fever has decreased. The subjects affected with pulmonary phthisis are of the richest classes, who inhabit the healthiest quarters, and who know how to employ hygienic measures to avoid malaria. On the contrary, persons who bear evident traces of paludal cachexia are only exceptionally affected with tuberculosis, in spite of their wretchedness and their deplorable hygiene. These facts find their explanation only by the law of Boudin. M. Chantemesse wished to know the degree of resistance of the tubercle bacilli thrown into the Seine with the sputa of phthisical subjects. In the water of the Seine, maintained at a temperature of from 8° to 12°C., the bacilli live fifty days. They live seventy days in the water of the Seine maintained at from 15° to 20°C. They may be sown and produce colonies of culture during this long interval of time, but it would appear to result from the experiments of M. Chantemesse that they lose their virulence. M. Arloing communicated the experiments of MM. Galtier and Cadéac of Lyons, which establish that the virulence persists during a month and a half in a fragment of tuberculous organ plunged in running water, and during 120 days if the fragment is immersed in stagnant water. M. Arloing tried to arrest the extension of experimental tuberculosis by extirpating the glands above the inoculation from the sixth day. His guinea-pigs had generalised tuberculosis, as well as those in which the glands had not been removed. He tried also to prevent the evolution of the tubercle bacillus by previously injecting into the guinea-pigs the microbe of typhoid fever; the result was not favourable. Nevertheless, M. Arloing thinks that these experiments should be persevered in. The cholera of fowls preserves rabbits from septicæmia; one may hope that some day there will be found a microbe which will be inoffensive for us, and which would prevent the invading progress of the bacillus of Koch. M. Babès of Bucharest made a very interesting communication on the bacterian associations of the bacillus of tuberculosis. One often finds in tuberculous cavities the streptococcus of pus, sapiogenic bacilli, also other microbes, each of which change their *rôle* in disease. The one would give rise more to septic troubles, the others are the cause of hæmorrhage or of visceral degeneration. These new notions lead more to the comprehension of the complexity of symptoms observed in phthisical subjects. MM. Redard and Verneuil insisted on the advantages of conservative surgery in the tuberculous osteo-arthritis of the foot in children. M. Duret showed the importance of treating tuberculous glands by the actual cautery. MM. Cornil and Toupet cited two cases in which was developed around a bacterium in a fragment of an oyster-shell a lesion the morphological characters of which were identical with those of tuberculosis. These pseudo forms of tuberculosis are extremely difficult to recognise; cultures and inoculations alone permit them to be distinguished. M. Hureau de Villeneuve protested against employing raw meat and blood in the alimentation of phthisical subjects. He said that raw meat brings on dyspepsia, causes disgust for food, and makes phthisical patients get thinner instead of fattening them. He considers that raw meat is dangerous as food even for healthy persons, as it is likely to produce tuberculosis in them. M. Arloing stated, in the name of M. Galtier, that when raw meat is considered necessary, none but that of the sheep and the goat should be given. As regards blood, that of the goat alone may be drunk without danger, the tuberculous goat being a pathological rarity.

The question treated on July 28th was the following: The Human Races, the Animal Species, and the Organic Media, viewed as regards their aptitude for Tuberculosis. M. Robinson brought to notice the extension of tuberculosis in Asia Minor; M. de Brun its foci in Syria. M. Aguirre of Chili exposed the hygienic conditions of his countrymen. He attributes, partly to the unfavourable conditions in which they live and to heredity the great mortality from tuberculosis which is observed at Santiago and at Valparaiso. M. Legroux drew attention to the polyadenopathy of children, and the signification which ought to be given to this affection. From all time, one was struck with the facility with which the lymphatic glands are irritated and swollen in children. It is termed "lymphatism" when the alteration is little pronounced, and when it is connected with some superficial eruption of the skin; one degree more, it is termed "scrofula," and in graver cases "scrofulo-tuberculosis." For M. Legroux, in all these cases, they are tuberculous lesions. Every child affected with local tuberculosis presents the micro-poly adenopathy; it is found with some degenerated gland clearly tuberculous in those children who are affected with it, and who succumb to an intercurrent affection. If it exists in a child presenting dubious signs of meningitis, one may affirm the diagnosis of tuberculous meningitis. It is therefore necessary that attention should be paid to the small glands in children. At the exhibition of babies, a large baby obtained the second prize; it had this multiplied adenopathy to a high degree. At thirty-two months it died of pulmonary tuberculosis. M. Leloir had studied certain forms of abnormal lupus, and had always found tubercle bacilli. Thus, according to this author, lupus is always a form of tegumentary tuberculosis, but it is an attenuated form, as shown by the rarity of bacilli, the slow infection which their inoculation determines, and the partial non-success of this inoculation. M. Bang of Copenhagen established the frequency of the hereditary transmission of tuberculosis to the calf when the father and the mother are tuberculous; heredity appeared in certain cases to be almost fatal. M. Vargas of Madrid presented a calcareous concretion expectorated by a patient affected with pulmonary phthisis very localised. —M. Hallopeau made an important communication on abnormal lupus. He exhibited an admirable model of one of his patients in the Saint Louis Hospital, affected with an abnormal lupus, the diagnosis of which could be arrived at only by experiment. The patient had been bitten by a horse, and the appearance of the lesion might have given the idea of farcy as well as cutaneous tuberculosis. M. Nocard practised at Alfort some unsuccessful inoculations, which demonstrated that there was no glanders; and, on the other hand, M. Hallopeau established in certain postulous nodules the presence of the bacilli of Koch. *Apropos* of this lupus, M. Hallopeau objected to the term "pyogenic" given to certain microbes. The micro-organisms do not

produce lesions of our tissues; they secrete poisons, leucomaines, and these latter, irritating our tissues, are the true cause of pus, of tubercle, or gummata. M. Arloing showed that different animals do not react in the same manner under the influence of tuberculous inoculations. The guinea-pig is an admirable reagent. Inoculation always produces in it the same results; it permits one to affirm the tuberculous nature or not of the substance inoculated. The rabbit is otherwise uncertain, but if it often resists the inoculation of the human tubercle, it always succumbs to the virulence of the bovine tubercle. This is the more reason, said M. Arloing, why we should protect ourselves against so powerful a tuberculous virus. M. Valude had performed some interesting experiments on the tuberculisation of the lacrymal ducts and of the salivary glands. Tears are for the bacillus of Koch a bad medium of culture, on account of their chemical composition; the saliva, on the contrary, does not prevent the salivary glands becoming tuberculous by inoculation. The question was then asked why the tuberculosis of these glands is as rare as that of the buccal mucous membrane. This depends, according to M. Valude, on the struggle for existence which takes place in the mouth among the numerous microbes which inhabit it; the bacillus of Koch, meeting these numerous and strong enemies, is killed and destroyed by them.

Paris, Aug. 7th. *(To be continued.)*

Obituary.

DR. JOHANN DLAUHY.

THE Vienna school owes much to this veteran hygienist, who died on the 31st ult., in his eighty-second year. He was born at Pilsen, the birth-place of the celebrated Skoda, of whom he was both the school and college companion. He graduated, after a brilliant course of study, at Vienna in 1834, became for a series of years assistant to Rokitansky, and was in 1844 appointed to the Professorship of Pathological Anatomy in the University of Prague. In 1848 he returned to Vienna to fill the chair of Forensic Medicine and State Hygiene. That year of revolution found him actively engaged, in addition to his official duties, as member of the Corps of Public Security and of the National Guard. On the return of tranquillity he enhanced the honourable distinction he had won at Prague by the solid work he performed at Vienna, where for forty years he was a leading authority in the department of hygiene, respected and beloved by his colleagues and pupils. Professor Dlauhy was repeatedly dean of the Medical Faculty, and outside the academic sphere he became widely and favourably known for his researches on the diseases of the heart and on all questions of forensic pathology. His numerous contributions to the "Jahresbericht" of the Society of Physicians of Vienna were appreciated far beyond the scene of their publication. He retired in 1878 on a pension, but his services to the Vienna school and to the medical cause as a whole terminated only with his life.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen, having conformed to the bye-laws and regulations, and passed the necessary examinations, have been admitted Licentiates of the College:—

Baker, Arthur Ernest, Charing-cross Hospital.
Bell, Frederick, St. Bartholomew's Hospital.
Bremner, Ramsey Allan, Guy's Hospital.
Brown, Francis Joseph, Middlesex Hospital.
*Burns, Robert John, University College Hospital.
*Caudwell, Francis Bernard H., Charing-cross Hospital.
*Dallewy, John, Charing-cross Hospital.
*Davidson, Fredk. William, Westminster Hospital.
*Ensor, C. William, London Hospital.
*Furbur, Edward Price, St. Bartholomew's Hospital.
*Grun, Edward Ferdinand, London Hospital.
*Hancock, John Edwin, Charing-cross Hospital.
*Jowers, Lancelot Emilius, St. Bartholomew's Hospital.
Kingston, Percy John, St. Mary's Hospital.
*Larkam, Edward Thomas, Middlesex Hospital.
*Lewis, C. Harvey, St. Bartholomew's Hospital.
*Ozzard, Fairlie Russell, London Hospital.
Part, John Shepley, Westminster Hospital.
*Pym, C. Brownlow, St. Bartholomew's Hospital.
Roberts, John Wm., Guy's Hospital.
*Shells, W. F. Michael, Guy's Hospital.
*Speedy, R. George Dunell, St. George's Hospital.
Wilkins, John, London Hospital.
*Wilkinson, John Cooper, Guy's Hospital.

* Candidates who have not presented themselves under the regulations of the Examining Board.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations were, at a meeting of the Council on the 2nd inst., admitted Members of the College:—

Abbott, F. C., L.R.C.P.Lond., Cowley-st., Westminster.
Acton, C. J., L.R.C.P.Lond., Southport.
Appleton, Enderby J., L.R.C.P.Lond., Old Charlton.
Baker, A. E., L.R.C.P.Lond., Camden-street.
*Barnett, J. E. S., L.R.C.P.Lond., Brighton.
*Bedford, C. H., M.B., C.M.Ed., Edinbain, Skye.
Belcher, H. E., L.R.C.P.Lond., Grafton-place.
Bell, Fredk., L.R.C.P.Lond., Preston.
*Blachford, J. V., L.R.C.P.Lond., Penge.
*Bodilly, R. T. Harker, L.R.C.P.Lond., Belitha Villa, Islington.
Bremner, R. A., L.R.C.P.Lond., Penge-road, South Norwood.
Brown, F. J., L.R.C.P.Lond., Mornfield-road, Shepherd's-bush.
*Brown, W. S., L.S.A., Guy's Hospital.
Brownlow, G. P., L.R.C.P.Lond., Manchester.
Bryett, L. T. F., L.R.C.P.Lond., Girdler's-rd., West Kensington.
*Buchanan, R. J. M'Lean, L.R.C.P.Lond., Bootle.
*Bullock, C. P., L.R.C.P.Lond., Fortess-road.
Burchell, E., L.R.C.P.Lond., Kingsland-road.
*Cameron, R. Watson, L.R.C.P.Lond., Manchester.
Capron, H. J., L.R.C.P.Lond., Clifton.
Carpenter, P. T., L.R.C.P.Lond., Portsdown-road.
Carter, W. C., L.R.C.P.Lond., Melton Mowbray.
*Caudwell, F. B. H., L.R.C.P.Lond., Stoke Newington.
Colborne, G., L.R.C.P.Lond., South Hampstead.
*Dallewy, J., L.R.C.P.Lond., Frodsham, Cheshire.
Davey, S., L.R.C.P.Lond., Cold Harbour-lane, Brixton.
*Davidson, F. Wm., L.R.C.P.Lond., Westminster Hospital.
Davis, C. S., Lewisham Park.
Davis, H., L.R.C.P.Lond., Stanhope-street.
Duer, C., L.R.C.P.Lond., Harewood-square.
Duncan, P. J., L.R.C.P.Lond., Marlborough-street.
Dyer, J. E., L.R.C.P.Lond., University College Hospital.
*Elias, J., L.S.A., Maespoth House, Brecon.
*Ensor, C. W., L.R.C.P.Lond., Wimborne.
*Evans, G. E. A., L.R.C.P.Lond., Seaton.
*Exley, J., L.K.Q.C.P.I., Hunslet.
Falkner, E. Ashley, L.R.C.P.Lond., Middlesex Hospital.
*Field, E. A., L.R.C.P.Lond., Wimbledon.
*Fox, J. S., M.B., C.M.Ed., St. Helens.
Freer, G. D., L.R.C.P.Lond., Stourbridge.
*Frost, J. K., L.S.A., Saltash.
Fryer, G. Ernest, L.R.C.P.Lond., Bowden.
*Furber, E. Price, L.R.C.P.Lond., Upper Hamilton-terrace.
*Giles, A. E., M.B.Vic. Univ., St. John's.
Gill, J. W., L.R.C.P.Lond., Brunton Cottage, Bath.
Goldney, A. G. Nelson, L.R.C.P.Lond., Hammersmith.
Goodfellow, T. A., L.R.C.P.Lond., Hatherton.
Gordon, William, L.R.C.P.Lond., Bernard-street.
*Greville, S. J. R., L.R.C.P.Ed., Greenock.
Grey, J. Temperley, L.R.C.P.Lond., Bristol.
Hancock, John Edwin, L.R.C.P.Lond., Callington.
*Handcock, G., L.S.A., Hunslet.
Harris, S. G. V., L.R.C.P.Lond., Clapham.
*Harvey, Frank, L.S.A., Plymouth.
Haviland, F. P., L.R.C.P.Lond., St. Leonards-on-Sea.
Higgins, Hubert, L.R.C.P.Lond., Wallington.
Hill, Robert, L.R.C.P.Lond., Mecklenburgh-square.
Hosking, J. E. F., L.R.C.P.Lond., Forest-hill.
Housman, Basil W., L.R.C.P.Lond., Bromsgrove.
Hughes, S. H., L.R.C.P.Lond., Shortlands.
Huxley, Henry, L.R.C.P.Lond., Marlborough-place.
*Jowers, Lancelot Emilius, L.R.C.P.Lond., Barnard's-inn.
*Kearney, James, L.S.A., Brixton.
*Keller, Otto Eugene, M.B. Berne, German Hospital, Dalston.
Kingston, Percy John, L.R.C.P. Lond., Sutherland-avenue.
Laing, Alfred William, L.R.C.P. Lond., Putney.
Langdale, Henry, L.R.C.P. Lond., Rusholme.
Langridge, Frank Washington, L.R.C.P. Lond., Herne-hill.
*Larcombe, George Garmany, M.D. Bellevue, Hogarth-road.
*Larkam, Edward Thomas, L.R.C.P. Lond., Highgate.
*Leman, Thomas Curtis, L.R.C.P. Lond., Chipping Sodbury.
*Lewis, Charles Harvey, L.R.C.P. Lond., Gravesend.
Lockett, John Arthur Pope, L.R.C.P. Lond., Victoria-park-road.
*Lomas, Ernest Courtney, M.B. Vic. Univ., Withington.
Maclure, Herbert W., L.R.C.P. Lond., Westbourne-park-terrace.
*McCardel, Edward John, M.D. Kingston, Torrington-square.
*McCullagh, Richard Cheveley, M.D. R.U.I., Bournemouth.
*Martin, Charles Lister, L.R.C.P. Lond., Blackheath.
Midelton, William J., L.R.C.P. Lond., Sutherland-avenue.
*Moss, Arthur James, L.S.A., Whitby.
Murray, George Redmayne, L.R.C.P. Lond., Green-street.
*Newton, Sidney Frederick, L.S.A., Fareham.
*Oakman Joseph John, L.S.A., Battersea.
O'Brien, Philip Kennedy, L.R.C.P. Lond., Croydon.
Ogle, John Gilbert, L.R.C.P. Lond., Camden-street.
Oldham, B. C., L.R.C.P. Lond., Avonmore-rd., West Kensington.
*Ozzard, Fairlie Russell, L.R.C.P. Lond., Forest-gate.
Parkin, Alfred, L.R.C.P. Lond., Liversedge.
Part, J. Shepley, L.R.C.P.Lond., Ashchurch-park-villas.
Pearson, James, L.R.C.P.Lond., Liverpool.
Pennell, G. H., L.R.C.P.Lond., Guy's Hospital.
Pierce, B., L.R.C.P.Lond., Union-road, Tufnell-road.

* Candidates who have not presented themselves under the regulations of the Examining Board in England.

Plant, James Robert, L.R.C.P.Lond., Leicester.
Platt, J. E., L.R.C.P.Lond., Uppermill.
*Pogson, J. Wm. Buckley, M.B.Ed., Aston.
Poulter, Arthur Reginald, L.R.C.P.Lond., Shortlands.
Powell, William, L.R.C.P.Lond., Brixton.
*Pringle, J. H., M.B.Ed., Torquhan Stow.
*Pym, C. Brownlow, L.R.C.P.Lond., Wallington.
*Richards, G. Oliver, Birmingham.
Roberts, J. W., L.R.C.P.Lond., Llanidoes.
Robinson, E. Stanley, L.R.C.P.Lond., Stourport.
Rudd, William Arthur, L.R.C.P.Lond., Amhurst-road.
*Schnehage, Caleb, M.B.Ed., Leeds.
*Sclater, Nelson C., L.K.Q.C.P.I., Liscard.
*Shells, W. Francis Michell, L.R.C.P.Lond., Streatham.
*Sims, G. Samuel, L.R.C.P.Lond., Commercial-road.
*Skinner, George Henry, L.R.C.P.Lond., Bristol.
Skyrme, Henry Edward, L.R.C.P.Lond., Chepstow.
*Smith, Henry Lyon, Chester-le-Street.
*Speedy, Robert G. Dunell, L.R.C.P.Lond., Queen Anne-street.
*Stephens, J. Wm., L.R.C.P.Lond., Kilgerran.
Summerskill, William, L.R.C.P.Lond., Leeds.
*Sunderland, Oliver, L.R.C.P.Ed., Bexley-heath.
Sylvester, H. Augustus, L.R.C.P.Lond., Barnard's-inn.
Tate, W. W. Hunt, L.R.C.P.Lond., The Terrace, Camden-square.
*Tench, M., L.R.C.P.Lond., Edith-road, West Kensington.
*Thomas, A., L.S.A., Portland-road, Notting-hill.
*Tresidder, William Elliot, L.R.C.P.Lond., West Dulwich.
Turney, Horace G., L.R.C.P.Lond., Camberwell-grove.
Vallancey, A. d'Estampes de, L.R.C.P.Lond., Tavistock-crescent.
*Verdon, F., L.R.C.P.Lond., Craven-street, Charing-cross.
Wade, Charles, L.R.C.P.Lond., Bascastle.
Watson, A. E., L.R.C.P.Lond., Norbiton.
White, E. R., L.R.C.P.Lond., Queen Anne's-gardens.
White, G. B.M., L.R.C.P.Lond., Hazelside-road.
Wilkins, John, L.R.C.P.Lond., Crouch-end.
Wilkinson, Edmund, L.R.C.P.Lond., Hammersmith.
*Williams, C. Louis, M.B., C.M.Ed., Birkenhead.
Willoughby, W. G., L.R.C.P.Lond., Downshire Hill.
Wills, Ernest, L.R.C.P.Lond., Torquay.
Wilson, Charles, L.R.C.P.Lond., Cambridge-road.
*Woodhams, Sidney, L.R.C.P.Lond., Rochester.
Wright, D. D'Auvergne, L.R.C.P.Lond., Ealing.
Wright, Joseph F., L.R.C.P.Lond., Manchester.
Wynne, J. Darley, M.B.Dub., Sheffield.

* Candidates who have not presented themselves under the regulations of the Examining Board in England.

UNIVERSITY OF ABERDEEN.—The following candidates have received Degrees in Medicine and Surgery:—

Degree of M.D.

Bennet, Francis A., M.A., M.B., C.M., Victoria, Australia.
Glaister, John, M.B., C.M., Putney, London.
*Gordon, John, M.B., C.M., Aberdeen.
*Griffith, Thomas Wardrop, M.B., C.M., Leeds.
Hutchinson, A. Cayley, M.B., C.M., West Brighton.
Jenkyns, John, M.B., C.M., Belize, British Honduras.
Knox, Alexander W., M.B., C.M., Great Yarmouth.
Lawson, William, M.B., C.M., West Bromwich, Staffordshire.
Russell, John, M.B., C.M., Arbroath.
Savege, James, M.B., C.M., Swanscombe, Kent.
*Struthers, James, jun., M.B., C.M., Aberdeen.
Tough, William R., M.A., M.B., C.M., Crook, co. Durham.
Wilson, Alexander, M.A., M.B., C.M., Midcalder.

* Considered deserving of highest honours.

Degrees of M.B. and C.M.

Allan, George, Fife-Keith.
Barber, A., Harrogate, Yorkshire.
Barclay, John, Dunecht.
Black, John Urquhart, London.
Buchanan, Geo. J., Punjab, India.
Cook, Robert H., Aberdeen.
Cumming, R., Duthill, Strathspey.
Diack, Wm., Aberdeen.
Dingwall, Archd., M.A., Aberdeen.
Don, James, Cults.
Duke, Alexander L., Arbroath.
Dunn, S. S., Adelaide, S. Australia.
Durran, John Geo., Caithness.
Eatough, R., Brindle, Lancashire.
Eden, Richard A. S., Aberdeen.
Ellis, A. Dowling, Aberdeen.
Ferdinands, Geo. S. P., Colombo, Ceylon.
Forsyth, John G. A., Abernethy.
Galloway, A. R., M.A., Inverurie.
Gibb, George, M.A., Aberdeen.
Gladstone, Reg. J., Old Aberdeen.
Gordon, George, Huntly.
‡Grant, Cormack, Caithness.
Grant, Robert, Tomintoul.
Gunn, Adam B. M., Caithness.
Heathcote, B. A., Ilfracombe, Dev.
‡Illingworth, T. W., Scarborough.
Joss, John, M.A., Huntly.
†Keith, Arthur, Turriff.
Keyt, F. T., Colombo, Ceylon.
Kydd, David A. F., Pollockshields, Glasgow.
Leach, Alfred, London.
Macallan, Thomas, Midmar.
Macdonald, George, Forres.
Mackenzie, Alex. F., Nairn.
‡Mackenzie, W. L., M.A., Alness.
Mackie, William, M.A., Chapel of Garioch.
Mackintosh, Jas. C., Inverness.
‡M'Kerron, R. G., M.A., Aberdeen.
Masson, William, Aberdeen.
Michie, Geo., M.A., Aberdeen.
Middleton, W. R. C., M.A., Aberd.
Milligan, Geo. C., M.A., Guthrie.
Milne, James, Botriphnie.
Monro, David Duke, Brechin.
Packer, John, Thirsk, Yorkshire.
Rae, Thomas Moir, M.A., Udny.
Riddell, John S., M.A., Aberdeen.
Robertson, Alex., Stonehaven.
Roden, P. A., Droitwich, Worcestershire.
Russell, Geo. R. C., Orkney.
Saunders, A. M., M.A., Woodside.
Skeen, Wm. St. John, Aberdeen.
Townsend, R. M., Cape Colony.
Will, Alick Murray, Aberdeen.
Williamson, A. S., M.A., Banff.
Wyllie, Robert Gill, Newhills.

† Highest academical honours. ‡ Honourable distinction.

The John Murray Medal and Scholarship given to the most distinguished Graduate of his year has been awarded to Arthur Keith.

Diploma in Public Health.—Ferguson, A. Cornwall, M.A., M.B., C.M.; Gladstone, Reginald J., M.B., C.M.; King, Walter G., M.B.; Surgeon-Major, with Credit; Mackenzie, Alex. F., M.B., C.M.; Rose, George, M.B., C.M.; Saunders, Alfred M., M.A., M.B., C.M.; Smagt, Francis A. van Der, M.D.

UNIVERSITY OF EDINBURGH.—The following is the list of candidates who received degrees on Aug. 1st:—

Doctor of Medicine.—Chas. Aitken, India, M.B., C.M.; ‡J. Auriol Armitage, England, B.A., M.B., C.M. (with second-class honours); E. K. Bourne, England, M.B., C.M.; Herbert Bramwell, England, M.B., C.M.; Geo. Crichton, Scotland, M.A., M.B.; A. H. Croucher, England, M.B., C.M.; ‡Thomas Wm. Dewar, Scotland, M.B., C.M.; ‡A. Jas. Elliot, Scotland, M.B., C.M.; D. G. Evans, Anglesey, M.B., C.M.; R. H. J. Fetherston, Australia, M.B., C.M.; ‡O. H. Garland, Scotland, M.B., C.M.; H. J. Gilbert, England, M.B., C.M.; *James Graham, Scotland, M.A., M.B., C.M.; ‡W. B. T. Gubbin, England, M.B., C.M.; C. H. Gwynn, England, M.B., C.M.; G. Hall, England, M.B., C.M.; *J. B. Haycraft, England, B.Sc., M.B., C.M.; †George V. Hewland, England, M.B., C.M.; ‡R. S. Hubbersty, England, M.B., C.M.; ‡Jas. Hutcheson, Scotland, M.B., C.M.; ‡Fredk. M. Johnson, Australia, M.B., C.M.; F. W. B. Jones, England, M.B., C.M.; C. A. S. Leggatt, England, M.B., C.M.; C. J. Lewis, England, M.B., C.M. (with first-class honours); Wm. M. Little, Singapore, M.B., C.M.; *George Mackay, Madras, M.B., C.M. (with second-class honours); J. M'Lachlan, Scotland, B.Sc., M.B., C.M.; M. MacLaren, New Brunswick, B.A., M.B., C.M.; †J. Maitland, India, M.B., C.M.; †D. J. Mason, Scotland, M.B., C.M.; Angus Matheson, Scotland, M.B., C.M.; ‡P. W. Maxwell, Scotland, M.B., C.M.; ‡T. Cockburn Meggison, England, M.B., C.M.; W. F. Menzies, Canada, M.B., C.M.; †Alex. C. Miller, Scotland, M.B., C.M.; ‡W. H. Miller, Canary Islands, M.B., C.M.; Morton, E., England, M.B., C.M.; †Jas. Musgrove, England, M.B., C.M.; John B. Nash, Australia, M.B., C.M.; D. T. Playfair, Scotland, M.B., C.M.; Thos. H. Pope, India, M.B., C.M.; John B. Richardson, England, M.B., C.M.; Douglas M. Ross, England, M.B.; G. F. Shiels, California, M.B., C.M.; Geo. Thomson, Scotland, M.B., C.M. (with second-class honours); E. Vaudrey, England, M.B., C.M.; Norman P. Walker, Scotland, M.B., C.M.; †Thos. B. Watson, Scotland, M.B., C.M.

* Those who have obtained Gold Medals for their Dissertations.
† Deemed worthy of competing for the Dissertation Gold Medals.
‡ Commended for their Dissertations.

Bachelor of Medicine and Master in Surgery.—Robt. Abernethy, Scotland; J. Alex. Adamson, Scotland; Robt. Andrew, Scotland; E. F. Armour, M.A., Scotland; R. Arthur, M.A., Scotland; Alex. Asher, Scotland; *Barnett, Louis E., New Zealand; J. H. Battersby, England; J. A. B. Bayly, Cape Colony; L. A. Willem Beck, Cape Colony; H. A. Becker, Orange Free State (received the degrees on Nov. 26th, 1887); †W. A. Betts, England; A. J. S. Beveridge, England; J. R. Bird, B.A., Canada; R. D. Booth, England; R. Laing Booth, India; J. T. Borthwick, Australia; N. L. Boxill, B.A., Barbadoes; F. D. Boyd, Scotland; J. W. Bridges, B.A., Canada; R. Broadbent, England; G. M'Murdo Brown, Scotland; J. K. Brown, England; A. W. T. Buist-Sparks, Scotland; A. E. Bullock, England; A. C. Burnell, Calcutta; T. W. Butcher, England (received the degrees on April 18th, 1888); G. C. Cameron, Scotland; T. V. Campbell, M.A., Ireland; F. H. Carlyon, England; D. B. Carse, Scotland; W. J. Cattan, B.A., New Zealand; C. H. T. Chevallier, England; John Cockton, England; M. W. W. Cowan, England; J. M. Crawford, Scotland; E. C. Cridland, England; A. J. Wilson Dalzell, England; J. H. Deamer, England; R. J. Drummond, India; C. W. Duggan, Scotland (received the degrees on Nov. 26th, 1887); H. A. Eaton, England; *Thos. W. Eden, England; †R. Edie, Scotland; F. A. Elkins, England; A. Elliot, M.A., Scotland; W. E. L. Elliott, Wales; R. C. Elsworth, England; John A. Ewan, M.A., Scotland; C. S. Facey, England; C. C. Fleming, Scotland; *R. A. Fleming, M.A., Scotland; C. M. Flide, Australia; *W. Fordyce, M.A., Scotland; J. A. Forrest, Australia; F. C. J. Fuiss, Cape of Good Hope; J. H. R. Garson, Scotland; R. J. George, England; A. L. Gillespie, Scotland; A. Gray, M.A., Scotland; C. Grobbelaar, B.A., South Africa; A. C. Hall, England; A. C. Hartley, Scotland; C. E. Harvey, Jamaica; T. D. H. Holmes, England (received the degrees on Nov. 26th, 1887); W. Hume, Scotland; T. A. Hynes, South Australia; J. C. Jameson, Scotland; †S. Jamieson, B.A., Australia; C. A. Johnston, India; D. J. Jones, Wales; W. Watkins Jones, Wales; G. Kelman, Scotland; P. J. Kenna, B.A., Australia; T. L. Kennish, England; E. J. Keogh, Australia; A. L. Kerr, Australia; W. Kinnear, M.A., Scotland; Olaf Kloster, Norway; G. Knowles, England; J. E. Kuhne, Switzerland; D. J. Kuys, B.A., Cape of Good Hope; H. C. Lamport, Natal; J. M. Laughton, Scotland; †S. M. Laurence, West Indies; S. F. Lautré, B.A., S. Africa; A. S. Lawrence, South Africa; †W. G. Laws, England; J. Liddell, M.A., Scotland; W. Lockwood, England; J. A. Lowson, Scotland; W. Lundie, M.A., B.Sc., Scotland; †F. J. M'Cann, Scotland; Alex. Macdonald, Scotland; J. M'Donald, Wales; A. J. MacGregor, Scotland; G. S. MacGregor, Scotland; T. MacGregor, Scotland; J. R. M'Intosh, B.A., Canada; Æneas D. M. Macintyre, Scotland; A. M. Mackay, Scotland; D. J. Mackay, Scotland; D. MacLeod, Scotland (received the degrees on April 18th, 1888); W. G. Macpherson, Scotland; *C. Martin, England (received the degrees on Nov. 26th, 1887); K. Maxwell, Tasmania; T. C. Meikle, M.A., Scotland; †J. Middlemass, M.A., B.Sc., Scotland; A. Miles, Scotland; G. V. Miller, England; V. Milner, England; J. G. Moffat, Scotland; *J. Montgomery, Scotland; F. W. G. Morgan, Ceylon; T. H. Morgan, Wales; R. H. Morrison, Australia; C. F. A. Moss, England; *Robert Muir, M.A., Scotland; N. G. Munro, Scotland; P. Murison, Scotland; C. D. Musgrove, England; J. van Niekerk, Cape Colony; J. Nightingale, England; A. B. Northcote, England; C. H. L. Palk, England (received the degrees on Nov. 26th, 1887); J. C. Palmer, Australia; T. C. Paterson, Scotland; B. L. Paton, B.A., India; J. Petersen, South Africa; J. Phillips, England; K. Prasad, India (received the degrees on Nov. 26th, 1887); T. J. Pritchard, England (*in absentiâ*); John Randle, Sierra Leone; J. R. Ratcliffe, England; J. C. Rattray, Scotland; E. W. Rayment, England; A. G. Reid, B.Sc., Canada; C. Reid, Scotland; R. Renton, Scotland; W. J. Richardson, Scotland; R. Richmond, England; †J. Ritchie, M.A., Scotland; A. Robertson, M.A., England; C. Robertson, India; R. Robertson, Scotland; J. W. Rodgers, England; D. M. M. Ross, Scotland; R. R. Ross, Nova Scotia; J. Russell, M.A., Scotland; R. A. St. Leger, Cape Colony; G. S. Samuelson, England; M. B. Saunders, England; C. B. B. Savory, England; J. F. Scott, B.A., U.S. America; W. A. Scott, M.A., Scotland; R. B. Shaw, Scotland; G. Shields, Scotland; J. H. Slayter, Canada; C. A. C. Smelt, England; E. M. Smith, Eng-

land; J. Smith, Scotland; J. H. Smith, Scotland; †J. Smuts, Cape Colony; W. Smyth, Ireland; †J. Somerville, New Zealand; G. H. Steyn, Cape Colony (received the degrees on Nov. 26th, 1887); H. V. Steyn, Cape Colony (received the degrees on Nov. 26th, 1887); W. D. Sutherland, India; G. T. Tate, England; G. H. Temple, England; C. T. Te Water, South Africa; I. G. Thomas, Wales; †I. Thompson, England; A. Thomson, Canada; A. E. Thomson, B.A., Canada; †J. C. Thomson, M.A., Scotland; W. T. Thomson, Scotland; J. Townsley, Scotland; D. Traill, M.A., B.Sc., Scotland; †J. H. Traquair, Scotland (*in absentiâ*); †N. G. Trotter, New Zealand; †D. Fyers D. Turner, B.A., England; H. Vine, England; F. Watson, Scotland; W. M. C. Watson, Scotland; J. W. Watterson, England; †J. C. Webster, B.A., Canada; W. Weir, B.Sc., Scotland; E. N. K. Wells, England; A. Westwood, Scotland; T. B. White, Scotland; H. T. Wickham, England; †J. D. Williams, Wales; A. M. Williamson, Scotland; J. H. Wilson, Brazil (received the degrees on Nov. 26th, 1887); R. A. Wilson, England; R. Wise, Scotland; D. Jas. Wood, Scotland; H. S. Wood, India; E. A. Woodward, New South Wales; W. Wynne, Wales; R. E. B. Yelf, England; T. MacCubbin Young, Scotland.

* Passed the Examinations with first-class honours.
† Passed the Examinations with second-class honours.

The following Scholarships, Prizes &c., have been awarded:

Ettles Scholarship—Thomas Watts Eden, M.B., C.M.
Stark Scholarship in Clinical Medicine—James Brown Bird.
Beaney Prize—John Clarence Webster, B.A., M.B., C.M.
Buchanan Scholarship—William Fordyce, M.A., M.B., C.M.
James Scott Scholarship—Thomas Watts Eden, M.B., C.M.
Freeland Barbour Fellowship—John David Williams, M.B., C.M.
Gunning Victoria Jubilee Bell Prize in Physiology—George Neil Stewart, M.A., D.Sc.
Gunning Victoria Jubilee Lister Prize in Surgery—E. F. Neve, M.D.
Wightman Prize—Arthur John Whiting.

CONJOINT SCHEME OF THE COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND.—At the July Examinations the following passed their Final Professional Examination:—

Clarke, William Crawford.
Dalton, Charles.
Gallivan, Thomas.
Gardiner, Charles Edward Roche.
Hayes, Edmond Fleming.
Healey, Coryndon Wm. Rutherford.
Hildige, Henry Johnston.
Jamison, James.
Jennings, James Willes.
Johnston, George Ainslie.
Jones, Charles Dillon.
Lewis, Richard Crumm.
MacCarthy, Charles Dennis.
Mawhinny, Robert John Watt.
McMunn, James Robert.
Mulqueen, John.
O'Dwyer, Peter.
O'Gorman, Michael Charles.
Palmer, William Crawford.
Penrose, George Rooke.
Ronayne, James Francis.
Waring, George Alexander.
Warren, Crawford.
Whitty, Richard Laurence.
Wynne, Wilfred Campbell Phillips.

ROYAL UNIVERSITY OF IRELAND.—The following medical graduates of the University have been admitted to the degree of Bachelor of Obstetrics:—

John St. Clair Boyd, Richard Michael Griffin, James Johnson, John M'Aleer, George Vance, and George Robert Young.

SOCIETY OF APOTHECARIES OF LONDON.—The following gentlemen having passed the qualifying examination in Medicine, Surgery, and Midwifery, have received certificates entitling them to practise in the same, and have been admitted as Licentiates of the Society:—

Baly, Ernest, London Hospital.
Howse, Arthur Edward, King's College.
Haviland, Frank Papillon, St. George's and Addenbrooke's.
Hiley, Richard Farrar, St. Thomas's and Addenbrooke's.
Brown, Walter Sigismund, Guy's Hospital.
Howe, George Bradley, Manchester Royal Infirmary.
Fernando, Hilarion Marcus, University College Hospital.
Tench, Montague, Middlesex Hospital.

The following passed in Surgery:—

Cory, F. G., Manchester.
Cricklitt, H. H., St. Geo.'s Hosp.
Lee, H. B., Sheffield.
Lloyd, J. W., Liverpool.
Robinson, G. A., London Hospital.

The following passed in Medicine:—

Alcock, R., Manchester.
Chamberlain, E. B., Lond. Hosp.
Davis, H., Univ. Coll. Hosp.
Francis, L., London Hospital.
Lunn, P. T., Middlesex Hospital.
Whitehead, J. W., Manchester.

The following passed in Part 1 of the Primary Examination:

Lee, H. B., Sheffield.
Macdona, L., Manchester and Middlesex Hospital.
Mitchell, R. P., London Hosp.
Pearse, R. R., Univ. Coll. Hosp.
Wilson, W., Manchester.
Wimbush, S., St. Barthol. Hosp.

The following passed in Part 2:—

Bennett, J. M., Liverpool.
Cook, J. C., Middlesex Hosp.
Dods, L. F., St. Barthol. Hosp.
Miller, J. T. R., St. Thomas's Hosp.

SUPERANNUATION GRANT.—Mr. J. R. Donald, F.R.C.S. Eng., late medical officer of the Lower Holloway District, in the parish of St. Mary, Islington, has been granted a superannuation allowance of £77 10*s.* a year.

ROYAL ALBERT ASYLUM, LANCASTER.—On Monday, Sept. 17th, the new Recreation Hall, to be named in honour of Lord Winmarleigh, who has taken great interest in its erection, will be opened by Lord Herschell, who will also preside at the quinquennial festival, to be held the same afternoon.

OBSTETRICAL SOCIETY OF LONDON.—The Library will be closed from August 20th to September 20th.

A BUST of the late Dr. Wilson Fox has been erected in the Shire Hall, Taunton

ACTION FOR DAMAGES AGAINST A DENTIST.—Frank Engleman, a sailor, who sued Dr. David S. Skinner, a Brooklyn dentist, for breaking his jaw while extracting a tooth, has received a verdict for £200. He sued the dentist for £1000.

NEW WATERWORKS, CROYDON.—Last week the Archbishop of Canterbury formally opened the new waterworks, to supply the town with water direct from the chalk, which have been carried out by the Corporation at a cost of £50,000.

CONSUMPTION HOSPITAL, BROMPTON.—Mr. T. P. Beckwith presided at the quarterly court of the governors, held on the 2nd inst. The in-patients admitted since May 31st were 239, and new out-patients' cases 2155. Since the alterations and improvements all the beds had been reoccupied.

PROVINCIAL HOSPITAL SUNDAY AND SATURDAY COLLECTIONS.—The Hospital Saturday collections on the 28th ult., at Windsor and Eton, on behalf of the Windsor Infirmary, amounted to £89 17*s.* 5*d.* The annual Sunday concert, at Heckmondwike, held on the 22nd ult., in aid of the Dewsbury and District Infirmary realised £55 0*s.* 10*d.*

THE MORGUE.—The books of the Paris Morgue show a steady yearly increase in the number of dead bodies received; 400 corpses were brought in 1830. In 1870 the number had risen from 400 to 800; then it fell in 1874 to 550; rose again from 807 in 1880 to 920 in 1881, and from 879 in 1882 to the unprecedented figure of 944 in 1883—the results of wilful murder, accidental death, or suicide.

THE CHILDREN'S JUBILEE OFFERING TO THE QUEEN.—The amount collected, which has exceeded £6000, has been presented, with a diamond brooch, to Her Majesty on behalf of the children, by Princess Victoria of Teck. The money will be appropriated towards the completion of the wing to the Hospital for Sick Children, Great Ormond-street, for which a building fund has been for some time in existence.

REGISTRATION OF PLUMBERS.—At the City and Guilds Institute, Finsbury, last Saturday, an examination was held under the auspices of the Company of Plumbers for Certificates of Registration. The practical examination included various branches of lead work, and the theoretical, questions relating to the several subjects of plumbers' materials, house fittings and sanitation. Seventy-five per cent of those attending passed the full examination.

BEQUESTS AND DONATIONS TO HOSPITALS.—Miss G. J. Austin, late of 77, Oxford-terrace, Hyde Park, has bequeathed £500 each to the Cancer Hospital, Brompton, and the Hospital for Consumption, Brompton; £250 to the Hospital for Sick Children, Great Ormond-street; £150 to St. Mary's Hospital, Paddington; and £125 to the Royal National Sea Bathing Infirmary, Margate.—The Hon. Bowes Daly, late of Killough Castle, Tipperary, has left, by his will, £200 each to the City of Dublin Hospital (Upper Baggot-street), St. Mark's Ophthalmic Hospital (Lincoln's-place, Dublin), the Convalescent Home (Stillorgan, Dublin), and the Hospital for Incurables (Donnybrook-road, Dublin).

A SEWAGE DESTRUCTOR A NUISANCE.—An action of some public interest—Booth *v.* the Corporation of Blackburn—was tried on Tuesday last in the Nisi Prius Court, Liverpool. The plaintiff was the owner of some property in Blackburn, adjacent to which the corporation had erected a destructor for burning the sewage of the town, and against the use of which he sought an injunction, alleging that the process was a nuisance to him and his tenants, and injurious to his property. When the case was called on counsel stated that the parties, after a consultation, had come to a satisfactory settlement. The terms of the agreement were, judgment for the defendants on the claim, the defendants undertaking, within two years, to make certain alterations by which the injury could be abated, and to pay the plaintiff's costs.

THE LATE MEDICAL OFFICER OF HEALTH FOR BRADFORD.—At a meeting of the Council of the Irish Schools and Graduates' Association held on July 29th, 1888, Dr. H. Macnaughton Jones in the chair, the following resolution was passed:—"That this Council of the Irish Medical Schools and Graduates' Association unanimously desire to express their warm sympathy with Dr. Thomas Whiteside Hime, the distinguished sanitarian, and lately medical officer of health in Bradford, in the circumstances attending on the recent loss of that position; and in conveying their expression of sympathy to Dr. Hime, they wish to record their appreciation of the able and independent manner in which he has discharged his duties as a public official, as proved by the evidence arising out of his recent deprivation of office."

ST. JOHN AMBULANCE ASSOCIATION.—The Princess Frederica, of Hanover, presented on Thursday, the 2nd inst., 246 medallions and certificates to the Polytechnic classes of the St. John Ambulance Association. Mr. John Furley, Director of the Ambulance Department of the Order of St. John, presided, and in his opening remarks alluded to the fact that the Queen has now granted the Order of St. John of Jerusalem in England a Royal Charter, Her Majesty becoming the Sovereign Head and Patron, the Prince of Wales "Grand Prior," and Prince Albert Victor "Sub Prior." The Prince of Wales has also become President of the St. John Ambulance Association, which has now awarded over 132,000 certificates of proficiency and 9700 medallions.

MEDICAL NOTES IN PARLIAMENT.

The Sweating System.

IN the House of Lords, on the 3rd inst., the Earl of Dunraven moved to amend the reference to the Select Committee appointed to inquire into the sweating system at the East-end of London by omitting the words "at the East-end of London," and inserting the words "in the United Kingdom."—The Earl of Meath supported the motion, which was agreed to without opposition.

Medical Officers of Health.

In the House of Commons, on the 2nd inst., Dr. Farquharson asked the President of the Local Government Board when the return granted in August, 1887, in continuation of Parliamentary Paper No. 359 of Session 1873, as to the appointment of medical officers of health would be in the hands of members.—Sir L. Playfair asked a question in relation to a similar return.—Mr. Ritchie, in reply, stated that it had been necessary to obtain returns from more than 1500 authorities, and in some cases several applications have had to be made for the information required. The returns are now complete, but in some cases further inquiries will be necessary. He hoped to have the return in the hands of the printers in about three weeks from the present time, and would endeavour to expedite the printing as much as possible.

Lock Hospitals in India.

Mr. Stuart asked the Under Secretary of State for India whether the India Office had received copies of the annual report of the Secunderabad Lock Hospital for 1887, and of the lock hospital in Lucknow for 1887; whether the India Office possessed the reprints, dated August 1st, 1887, of the cantonment regulations containing the "special committee's exposition of the lock hospital rules," or any other copy of that "exposition"; and whether those lock hospital rules were at present in force or not.—Sir J. Gorst said that his answer to the first question was no, they are not yet received; (2) yes; (3) paragraph 7 of the dispatch of the Secretary of State, No. 180, of May 17th, 1888, which has already been presented to Parliament, instructed the Government of India to undertake a careful revision of the cantonment lock hospital rules upon the principles there laid down.—Mr. Stuart asked whether the India Office were generally so long in receiving the important documents they asked for as in this case. The document to which he referred was issued on January 1st last.—No answer was given to this question.—Mr. M'Laren said that Lord Cross lately stated to a deputation that the whole of the regulations under the Cantonments Acts with regard to those diseases were absolutely suspended and non-existent; and he asked whether the Under Secretary for India would corroborate that statement now.—Sir J. Gorst said that if the Secretary of State had made such a statement the hon. member ought to be satisfied with it, and should not require its corroboration by him.—Mr. Stuart gave notice that he would raise that question on the Indian Budget.

Sanitary Condition of Police Cells.

In reply to Mr. C. Graham, Mr. Matthews stated that it was the intention of the Government to do everything in their power to remedy the insanitary state of the police cells in London and the provinces. Active communication was now proceeding with the various local authorities, and there was every prospect that it would be found possible to carry out the recommendations of the committee.

Pharmacy Act (Ireland) (1875) Amendment Bill.

This Bill was read a second time.

The Case of Dr. Middleton.

On the 3rd inst., in reply to Mr. Rowntree, Sir J. Fergusson stated that the £400 deposited by Dr. Middleton as security for his appearance at the trial in connexion with the recent affray at Cordova had not yet been returned to him, in consequence of the gipsies having appealed to the Supreme Court at Madrid. Dr. Middleton had suffered no injustice at the hands of the Spanish authorities, and the Secretary of State could not found any claim upon the Spanish Government for compensation.

Surgeon Thomas Munan.

In reply to Dr. Kenny, who asked whether the First Lord of the Admiralty would use his influence to procure some adequate compensation for the widowed mother of Surgeon Thomas Munan, who was lost when H.M.S. *Wasp* foundered in September, 1887, Lord G. Hamilton said that he regretted that the conditions of the case did not bring Mrs. Munan within the scope of the regulations that would authorise the Admiralty to assist her.

Tuberculosis.

In reply to Dr. Farquharson, Viscount Lewisham said that the question of including tuberculosis among the diseases dealt with under the Contagious Diseases (Animals) Act was under consideration, together with other recommendations of the Committee which had been recently reported.

On the 7th inst. Dr. Farquharson asked the President of the Local Government Board whether, considering the alarming statement recently made by Dr. Sims Woodhead and others with reference to the communication of consumption to the human subject from the milk of cows suffering from tuberculosis of the udder, he would direct an investigation to be made into the subject by the medical officers of his department.—Mr. Ritchie replied that an investigation of the question whether consumption may be communicated to the human subject from the milk of cows suffering from tuberculosis of the udder would occupy much time and labour, and such an investigation could not be undertaken by the present medical staff of the Local Government Board. The department had, however, for some time past been, and would continue to be, on the watch for any evidence of the communication of disease to human beings by the milk of tuberculous cows. Little or no evidence of this transmission reached the Board from English sanitary observers.

Supply.

On the 5th inst., on the vote for provisions, forage, fuel, and light, &c., Dr. Farquharson suggested the appointment of a committee to see into the whole question of soldiers' rations. A long discussion ensued, in which Sir Guyer Hunter, Mr. Hanbury, Colonel Nolan, and others took part, and the vote was ultimately agreed to.

On the 6th inst., on the report of the vote for the medical establishment of the Navy, Dr. Tanner rose to call attention to the report of the Committee on the Army and Navy Estimates, and pointed out that several points in that report were altogether in antagonism to the statement made by the Director-General of the Navy in his evidence. He drew attention to the evidence given before that committee as to the advantages enjoyed by the Army medical staff as compared with the naval medical staff, in the shape of more pay, more comforts, more leave, and better opportunities of keeping up their medical knowledge. He also suggested that when they came home from foreign service they should have the advantage of attending the metropolitan hospitals and medical schools.—Lord George Hamilton said that the Committee on the Navy Medical Service reported that exceptional advantages of pay and retirement attached to the service. He could not hold out any hope of increased pay being given to medical officers of the Navy. There was no lack of capable candidates, and that would be a sufficient reason for not increasing the vote for the service. The medical officers of the Army might have advantages not possessed by those of the Navy, and it was proposed to appoint a small committee with a view of assimilating the practice in the Army and Navy. It was desirable that Navy medical officers should have access to large hospitals when they came ashore. The medical officers of the Navy acquiesced in the rule that there should only be one officer on board a ship who should be able to inflict punishment.

Prison Dietary (Ireland).

In answer to Mr. J. Stuart, the Solicitor-General for Ireland said that the circular relating to prison dietary referred to by the hon. member was issued in 1886, not in 1885. The circular invited the medical officers to state their opinions and their experience of the effects observed while the new diet was in use. They were not requested to report in favour of the old diet. The result of the circular has not been to induce medical officers to go counter to the recommendation of the Royal Commission.

Public Health Act Amendment Bill.

On the 7th inst., this Bill was recommitted, and certain amendments agreed to.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BOTT, H. S., M.R.C.S., L.S.A., has been appointed Medical Officer of the Fifth District of the Wycombe Union.

HILL, HEDLEY, M.R.C.S., L.R.C.P., has been appointed Physician's Assistant to the Bristol General Hospital, vice W. M. Barclay, appointed Assistant Surgeon.

HUNTER, EDWIN J., L.R.C.P., L.M.Edin., L.F.P.S.Glasg., has been appointed Medical Officer for the Town District of Alverstoke.

LEWIS, W. H., M.B. and C.M.Edin., has been appointed Medical Officer for the Llansaintffraid District, Llanfyllin Union.

LYDDON, RICHARD, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Deal District of the Eastry Union, vice T. E. Mason, M.D., M.R.C.S., deceased.

PAYNE, A. B., L.R.C.P.Edin., M.R.C.S., has been appointed Medical Officer of Health for the Deal Urban District and the Deal Division of Dover Port Sanitary District, vice Mason, deceased.

POLLARD, W. R., M.R.C.P. Lond. and L.M. Edin., L.R.C.S.I., has been appointed Medical Officer of the Workhouse, Blackburn Union.

WHISHAW, REGINALD R., B.A., M.B., B.C. Cantab., L.R.C.P. Lond., F.R.C.S. Eng., has been appointed Demonstrator of Anatomy in the Bristol Medical School.

WILDE, LEONARD, M.B. Dur., M.R.C.S., L.R.C.P., L.S.A., has been appointed Senior House Surgeon to the London Temperance Hospital.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

COLAR DISTRICT, Province of Mysore, India.—Assistant Surgeon for mines in this district. Salary £250 per annum for a three years' engagement, passage paid out and home. Lodgings provided, but not board.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon. Salary £50 per annum, board and washing.

GENERAL HOSPITAL, Birmingham.—Assistant House Surgeon. No salary, but residence, board, and washing will be provided. Appointment for six months.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary £80 per annum, with apartments, board, and attendance.

ROYAL BERKS HOSPITAL, Reading.—Assistant House Surgeon. No salary, but board and lodging.

ROYAL HOSPITAL OF BETHLEHEM, London.—Assistant Medical Officer. Salary £300 per annum, with residence in the hospital, furnished only with planned and fitted furniture, and an annual allowance of coals and gas.

SWANSEA HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, furnished apartments, coals, gas, laundress, and attendance.

UNIVERSITY COLLEGE, Bristol.—Medical Tutor. Stipend, £125 per annum.

UNIVERSITY OF ABERDEEN.—The chair of Chemistry in the University.

VICTORIA HOSPITAL, Burnley.—Resident Medical Officer. Salary £60.

WILTON UNION.—Medical Officer and Public Vaccinator for Stapleford District. Salary £70 yearly, inclusive of midwifery and surgical fees. Vaccination fees to be paid for in addition.

Births, Marriages, and Deaths.

BIRTHS.

ADAMS.—On the 5th inst., at Palmerston-road, Buckhurst-hill, the wife of C. E. Adams, M.B., B.Sc. Lond., M.R.C.S., of a son.

BENHAM.—On the 1st inst., at Rue de Siam, Passy, Paris, the wife of Henry James Benham, M.D. Lond., of a daughter.

HUBBARD.—On the 4th inst., at The Lawn, Diss, Norfolk, the wife of F. Edmund Hubbard, L.R.C.P. Lond., of a daughter.

POTTER.—On the 3rd inst., at Cullompton, Devon, the wife of John Hope Potter, M.R.C.S., L.R.C.P., of a daughter.

SINCLAIR.—On the 3rd inst., at Prince's-street, Storey's-gate, the wife of J. E. Sinclair, L.R.C.P., of a daughter.

WHITE.—On the 1st inst., at Fletcher House, Tottenham, the wife of Octavius M. White, surgeon, of a daughter.

MARRIAGES.

DAVIS—OLDHAM.—On the 7th inst., at St. Mark's, Leamington, by the Rev. T. Gardner, M.A., Rector of Radstock, cousin of the bride, assisted by the Rev. H. L. Maud, M.A., the Rev. Charles Davis, B.A. Oxon., Vicar of Holy Trinity, Hickley, to Annie Mitchell, youngest daughter of the late Riton Oldham, Esq., F.R.C.S., J.P. (County Durham), of West Hartlepool, and Mrs. Riton Oldham, St. Hilda's, Leamington.

HOLMES—WHITE.—On the 25th ult., at St. James's, Piccadilly, Dr. W. Reid Holmes, to Lizzie, only daughter of the late Andrew White, Esq., Ormiston Colliery, East Lothian, and niece of Dr. Slight, 3, Clifford-street, W.

RYAN-TENISON—MARTYN.—On the 1st inst., at St. Nicholas' Church, Saltash, by the Rev. Julian Moreton, Edward Heron Ryan-Tenison, M.R.C.S.E., L.S.A., to Kate, youngest daughter of the late Dr. Martyn, of Chillington, Devon.

DEATHS.

BAIN.—On the 6th inst., at his residence, Blackwall, William Pellew Bain, M.D., eldest son of the late Sir William Bain, R.N., aged 77.

LOUTTIT.—On the 27th ult., at Vanbrugh Park, Blackheath, London, James Louttit, M.D., M.R.C.S.E., aged 56.

LUSH.—On the 4th inst., at St. Leonards, suddenly, of heart disease, John Alfred Lush, M.D., of Redcliffe-square, S.W.; formerly M.P. for Salisbury.

REYNOLDS.—On the 27th ult., at Portnassau, Ballyshannon, County Donegal, John Andrew Reynolds, late Inspector-General of Hospitals, I.M.S., aged 75.

THIELE.—On the 7th ult., at Muree, N.W. India, Herman Thiele, M.B., Sugeon A.M.D.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 9th, 1888.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Aug. 3	30·25	N.W.	60	56	112	74	51	..	Bright
,, 4	30·16	S.W.	57	56	108	69	55	..	Raining
,, 5	29·81	N.W.	60	54	109	65	53	·12	Cloudy
,, 6	30·17	N.W.	57	52	91	66	52	·03	Hazy
,, 7	30·16	N.W.	66	63	119	83	56	·03	Hazy
,, 8	30·16	W.	67	62	122	83	62	..	Bright
,, 9	30·14	W.	73	67	126	86	62	..	Bright

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

"RECOVERY OF VISION BY LIGHTNING."

MR. MARTIN JONES of Birmingham writes, in reference to the annotation on this subject which appeared in our issue of the 28th ult., that Adam Bate, the subject of the supposed recovery, was admitted into the Birmingham and Midland Eye Hospital in December of last year. His right eye was then disorganised, and the left one affected with superficial ulceration with deposit of burnt débris. The right eye was excised, and the left eye, the sight of which was never lost, recovered with slight nebulæ, the organ of vision being otherwise perfect. Of course, this explanation disposes of the case under notice, but the scientific accuracy of our remarks on the subject is not thereby impugned.

Dr. W. Dale (King's Lynn).—1. The information will be found in an annotation in our present issue.—2. Reference is made to Metschnikoff's researches in Mr. Bland Sutton's lecture, published in THE LANCET of Feb. 20th, 1886, and in some editorial remarks in the following number.

Mr. W. H. Steeves, D.D.S. (St. John's, New Brunswick) is referred to Sects. 9 & 10 of the Dentists Act, 1878, for the information he seeks.

THE CONTAGION OF PUERPERAL FEVER.

To the Editors of THE LANCET.

SIRS,—On July 17th last I attended the wife of the Rev. ——. She is about thirty-three years of age, primipara. I was obliged to do the high forceps operation, and delivered her of a living boy. There was no crack or laceration of any kind internally or externally. On the third morning the patient had a marked rigor, and temperature of 107° F. She has since developed puerperal fever. I have not been attending any case of a contagious kind whatever; but I learned from the husband (who took over some of the effects of his predecessor) that the previous clergyman's wife suffered from puerperal fever just a year ago. The patient occupies the same room, and uses the same bedstead (iron French bedstead); hence, I take it, the disease. I am quite unable to account for it in any other way. The placenta and membranes came away perfectly. There was no clot left, and the delivery itself was all right.

I have to ask now the following question. I expect to leave off attendance in about three weeks' time (about Aug. 28th), and I would like to know how soon afterwards can I safely resume attendance on midwifery again? Is it absolutely necessary for me to go away from the neighbourhood for a time? Or will simple disinfection of wearing apparel over sulphur fumes suffice? I wish to know the earliest date at which I can safely resume midwifery practice, and I would be glad of any suggestions as to fumigation, &c. that those who have had experience in this class of cases may be so good as to offer.

I remain, Sirs, yours faithfully,

Aug. 6th, 1888. OBSTETRICUS.

WOOLSORTERS' DISEASE.

MR. W. ROBERTS CARR, of Allerton, near Bradford, Yorks, writes that the statement that "it is noteworthy that in all the mills where the precautionary regulations have been observed there has been an absence of woolsorters' disease" is not accurate. Amongst the *employés* of the firm with which he is connected there had not been for twenty-five years a case of this disease until the regulations were adopted. Since that time two cases have occurred in twelve months.

Hygiene.—The Conjoint Board have never issued any syllabus of works to be read for any of their examinations. The standard for the diploma in public health seems to be much the same as that for Cambridge, and at the Cambridge University Depôt in Paternoster-row a pamphlet containing the last examination papers, together with the list of books recommended to be read, can be obtained for 1*s.* The list contains a number of works dealing with the same subject, and the candidate will himself judge which to select from a needlessly long list. In the second half of the examination it seems evident that knowledge of the recent researches contained in the reports of the Medical Officer of the Local Government Board is held to be of value.

GONORRHŒAL RHEUMATISM.

To the Editors of THE LANCET.

SIRS,—It is only too well known how frequently patients are admitted into our hospitals for subacute rheumatism affecting several joints, which fails to be benefited by salicylates, &c., and which, after it may be several weeks, proves to have been of gonorrhœal origin. While I was resident at a hospital a man was treated for weeks for subacute rheumatism with salicylates unsuccessfully. Throughout his case the prominent feature was the rheumatism of both temporo-maxillary joints, so that he could not open his mouth wide enough to put his finger between his teeth. Of three other cases in which that joint was affected, I accused the patients of having gonorrhœa, or of having had it lately, and was correct in each case. These four cases were all males. In two other cases (female) I could not be certain that they were gonorrhœal. The late Dr. Fagge considered the ankles and soles of the feet the most frequently affected in gonorrhœal rheumatism; and doubtless they are more often involved than the knee, as laid down in all our text-books. In no book have I seen it mentioned that the temporo-maxillary joint is fairly frequently affected and a useful aid in diagnosis.

I am, Sirs, yours faithfully,

Brecon Infirmary, August, 1888. JOHN B. WEBB.

THE CLIMATE OF TEXAS.

To the Editors of THE LANCET.

SIRS,—I should like to be allowed to ask if the climate of North-West Texas (Concho co.) would be unsuitable for a phthisical patient who has an old cavity in the apex of his right lung? The patient has friends living there, and would receive every attention and comfort.

I am, Sirs, yours faithfully,

Aug. 6th, 1888. M.K. & Q.C.P.I.

COCA TOBACCO.

THE material supplied under this name appears to be devoid of any harmful properties. The pulse becomes slightly accelerated under its influence, and somewhat fuller; the mental faculties are not appreciably affected. The substance does not possess, so far as we have observed, the narcotic and sedative influence of ordinary tobacco. The fumes are comparatively tasteless, but the odour is distinctly unpleasant and irritating.

Mr. Percival.—Elaborate statistics of female mortality as compared with that of males have been compiled, and may be found in the Government Annuity Tables and in those published by the Institute of Actuaries; but we are not aware that anything deserving the name of statistics has been brought together which treats of distinctively female sickness. The best sickness experience tables are those compiled from the experience of the Manchester Unity, but they represent what is, of course, preponderatingly male experience.

Quæro.—We think that Locum acted wisely in this case. He had sent for N——, who had a sort of partner's position, though not actually a partner, and it was not unreasonable that he should wish to do, and do, the operation. As friends, the question is still more easy of adjustment.

ENLARGED SPLEEN.

To the Editors of THE LANCET.

SIRS,—In answer to the question put to you by Dr. C. W. Williams of Norwich (May 19th, 1888), I beg through you to inform him that Dr. Patrick Manson removed by lithotrity a large stone from a patient with an enormous spleen in the month of April, 1888. The patient was watched for some time previously to the operation, and treated with large doses of quinine. Although the operation was a prolonged one, the patient recovered without a bad symptom.—Yours truly,

Hong Kong, June 29th, 1888. JAMES CANTLIE.

M.R.C.S.—We think a voyage under the circumstances would be very inexpedient, except, perhaps, in the company of a medical attendant.

Dr. E. B. Truman.—Yes, shortly.

"THE VIRUS DESTROYER."

DR. MACCALL, of Morecambe, writes to us to say that he has at length succeeded in perfecting his instrument for the immediate treatment of bites by animals presumably suffering from hydrophobia, and which formed the subject of communications from him published in THE LANCET of Dec. 24th, 1887, and Jan. 28th following. The chief difficulty appears to have lain in the manufacture of the bichloride of mercury points, the metal not bearing fusion or compression. The points consist of seven parts sugar and one part corrosive sublimate, and, we understand, they will keep any length of time. Dr. Maccall has submitted to us two specimens of the pencils—one in celluloid, and another in aluminium; they are very neat in appearance, may be carried in the waistcoat pocket without inconvenience, and we should be inclined to augur very favourably of their usefulness. We confess, however, to a certain amount of misgiving as to the possibility of danger arising from conceivable carelessness in allowing the tubes to be within the reach of children and thoughtless and ignorant persons—a danger which would seem capable of assuming formidable proportions in view of the probability of the tubes coming into anything like general use. The whole of the Stirlingshire police are, we are informed, being supplied with them.

A Subscriber from 1877.—1. Parkes' Hygiene, Ganot's Physics, Baldwin Latham's Sanitary Engineering, and the Public Health Acts.—2. A beginner would find many useful hints in the introductory chapters of Whitla's Materia Medica. For general purposes later, Squire's Companion to the British Pharmacopœia would be very valuable.

Assistant.—No doubt it is usual for travelling expenses to be paid under the circumstances; but they cannot be sued for as a right.

Mr. W. A. H. Barrett.—No.

"DEAF-MUTES IN THE UNITED STATES."

To the Editors of THE LANCET.

SIRS,—Professor Graham Bell is perfectly correct in his condemnation of huge asylums and the asylum plan in general, but wrong in the remedy he suggests. Dr. Graser in Germany and Dr. Blanchet in Paris advocated and put into practice the instruction of deaf with hearing children, but the plan utterly failed. All that is needed is separate classes for the deaf and dumb, conducted on the same principles as have been advocated and carried out by this Association. Whether the children who live at too great a distance to return home daily are boarded out in private families under proper supervision, as I strongly advise, or in small houses, is a question requiring consideration; but a deaf and so-called dumb child cannot be entirely taught in a school for the hearing. Great advantage would, however, be derived from the deaf child mixing with hearing children in the playground, in drill exercises, and in drawing, needlework, or other technical exercises.

I am, Sirs, yours obediently,

WILLIAM VAN PRAAGH.

Association for the Oral Instruction of the Deaf and Dumb,
Fitzroy-square, W., Aug. 2nd, 1888.

QUALIFIED ASSISTANTS "COVERING" ILLEGAL PRACTICE.

To the Editors of THE LANCET.

SIRS,—There is in this district an unqualified man who has been practising here for more than ten years. He holds in his own name the appointment of surgeon to a number of registered friendly societies, collieries, and other clubs. He covers himself by employing a qualified assistant (whom he changes every few months) to sign certificates. He is a member of the local board and board of guardians, and passes generally as a qualified medical practitioner. I should be glad to know whether such practice is illegal, and, if so, what would be the best steps to take to put a stop to it.—I am, Sirs, yours faithfully,

August, 1888. ENQUIRER.

*** It is only kind to the qualified assistants who enable this unqualified practitioner to hold appointments for which he is legally unfit to let them know that they are acting in a way repeatedly condemned by the Medical Council, and which lays them open to the charge of "infamous conduct" in a professional respect. It would be right if they disregarded such an intimation to bring the particulars before the Medical Council.—ED. L.

Cover Assistant.—A qualified man "covering" one unqualified at a distance of six or seven miles lays himself open to censure by the Medical Council, and possibly to the removal of his name from the Register. The facts should be ascertained carefully, and submitted to the Medical Council. It would be kind beforehand to give fair notice to the parties concerned.

Dr. A. Pavone (Naples).—Our arrangements with regard to the matter mentioned by our correspondent are at present complete.

Mr. Wm. C. Kendal should put the questions to his usual medical attendant. We do not prescribe.

M. B. C. (Galway) should apply to the Patent Office, Southampton-buildings, London, W.C.

Lex has not enclosed his card.

MEDICAL PRACTITIONERS AND THE BUSINESS OF CHEMISTS.

A. B. C.—It is not lawful for a member of the medical profession to be registered as a pharmaceutical chemist. A medical man should not attend as a consultant at a chemist's shop, but should see patients in his own house.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Savage, London; Sir E. Lechmere, London; Dr. Park, Glasgow; Dr. Cogan, Northampton; Mr. Stenhouse, Glasgow; Dr. Hime, Bradford; Dr. E. Seaton, London; Mr. F. Boehm, London; Mr. Simpson, Farnborough; Mr. R. W. Murray, Liverpool; Dr. Buchanan, Glasgow; Dr. Norman Kerr, London; Mr. W. R. H. Stewart, London; Messrs. J. Donald and Co., Edinburgh; Mr. F. A. Southam, Manchester; Mr. Munro Scott, London; Dr. Robertson, Newcastle-on-Tyne; Dr. Dale, King's Lynn; Mr. W. R. Cass, Allerton; Miss Yates, London; Mr. Van Praagh, London; Mr. Barrett, Ely; Messrs. Burgoyne, Burbidges, and Co.; Dr. Spencer, St. Leonards; Dr. McKendrick, Glasgow; Mr. A. C. Dixey, Southsea; Dr. Truman, Nottingham; Mr. Coghill, Birmingham; Prof. Struthers, Aberdeen; Mr. Walker, Aberdeen; Mr. Wylie, Belfast; Mr. Fulton, Canada; Dr. Pavone, Naples; Dr. H. Hun, New York; Mr. Hopkins, Bath; Mr. A. Woakes; Mr. W. H. Bull, Stony Stratford; Mr. E. H. Frazer, Consett; Mr. Steeves, St. John's, New Brunswick; Dr. Burnett; Dr. McMordie, Belfast; Mr. J. Cantlie, Hong Kong; Mr. M. Young, Birmingham; Messrs. Knighton, Hayman, and Co., London; Dr. Aikman, Guernsey; Mr. Lush, London; Dr. A. Yule, Guildford; M.K.Q.C.P.I.; Obstetricus; Country, London; A. B. C.; Assistant; Hygiene; F. C. P., Stroud; Enquirer; Cover Assistant; M.R.C.S.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Juler London; Mr. Hawkins, London; Mr. Lloyd, London; Messrs. Rocke and Co., London; Sir J. Sawyer, Birmingham; Messrs. Drongoole and Co., St. Helens; Mr. Gardner, Edinburgh; Messrs. Christy and Co., London; Mr. Bigg, London; Mr. Potter, Devon; Mr. Bates, New York; Mr. Symonds, Oxford; Mr. Thomas, Herts; Messrs. Loeflund and Co., London; Mr. Meacham, Manchester; Messrs. Wyleys and Co., Coventry; Mr. Tailer, Salop; Mr. Ernst, London; Mr. Murrell, London; Mr. Reeve, Norwich; Dr. Thomson, Dalkeith; Mr. Cornish, Manchester; Mr. McClelland, Glasgow; Dr. Whitham, Adlington; Mr. F. White, Yorks; Mr. Couzens, London; Messrs. Thompson and Co., Liverpool; Mr. Wilson, Wilton; Dr. Haley, Yorks; Messrs. Smith and Son, Birmingham; Mr. Heywood, Manchester; Mr. Greenwood, Kendal; Mr. Lister, Burnley; Dr. Watkins, Lancs; Mr. Williams, Cornwall; Mr. Logan, Scotland; Mr. Stride, Brighton; Dr. Adams, London; Dr. Wiglesworth; Mrs. Loutitt, Blackheath; Mr. Crozier, Lytham; Mr. Elliott, Carlisle; Mr. Lee, Leeds; Mr. Hardy, Maidstone; Mr. Clark, Doncaster; Mrs. Rutley, London; M.D., Derbyshire; J. K. M., London; General Hospital, Birmingham; Hospital for Women, London; N. B., London; M.D., London; 3096, *Scotsman* Office; G. T., Somerset; E., London; M.D., Birmingham; Dumfries Royal Infirmary; Eques, London; Subscriber; L. M., London; Lady Principal; M. P., London; M. H., London; Jar, London; Gateshead Children's Hospital; Y., London; Dispenser, Southport; University College, Dundee; A. S. Y., London; C. S. L., London; Hospital for Women, Liverpool; S. Y., London; A. E., Queenstown; Yorkshire College, Leeds; Surgeon, London; Student, London; Cellular Cloth Co.; A. B. V., London; Surgeon, Mon; 781, Birmingham; Queen's Hospital, Birmingham; M.D., Axminster; S. G., London; Orfila, London; Oxon, London; Noncon., London; L. M., London; East, London; B. W. M., Brighton; Glencoe, London; H. M. P., London; Agricola, London; Owner, Harlesden.

Scottish Leader, Reading Mercury, Edinburgh Evening News, Windsor and Eton Express, Ulverston News, Evening Post, Herald and Weekly Free Press, Beverley Recorder, Hertfordshire Mercury, Nottingham Daily Guardian, &c., have been received.

Medical Diary for the ensuing Week.

Monday, August 13.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

Tuesday, August 14.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.

Wednesday, August 15.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 A.M. Saturday, same hour.

Thursday, August 16.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

Friday, August 17.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, August 18.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—4 P.M. Dr. William Carter: On Uræmia. (Bradshawe Lecture.)

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